



DECEMBER 2020

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# IASBABA'S MONTHLY MAGAZINE

**Controversy surrounding “Love Jihad”**

**Historic Recession: On India’s GDP slump**

**2020 State Of The Education Report For India**

**India Water Impact 2020**

**Atmanirbhar Bharat Rojgar Yojana (ABRY)**

## PREFACE

With the present shift in examination pattern of UPSC Civil Services Examination, 'General Studies – II and General Studies III' can safely be replaced with 'Current Affairs'. Moreover, following the recent trend of UPSC, almost all the questions are issue-based rather than news-based. Therefore, the right approach to preparation is to prepare issues, rather than just reading news.

Taking this into account, our website [www.iasbaba.com](http://www.iasbaba.com) will cover current affairs focusing more on 'issues' on a daily basis. This will help you pick up relevant news items of the day from various national dailies such as The Hindu, Indian Express, Business Standard, LiveMint, Business Line and other important Online sources. Over time, some of these news items will become important issues.

UPSC has the knack of picking such issues and asking general opinion based questions. Answering such questions will require general awareness and an overall understanding of the issue. Therefore, we intend to create the right understanding among aspirants – 'How to cover these issues?'

This is the 67<sup>th</sup> edition of IASbaba's Monthly Magazine. This edition covers all important issues that were in news in the month of **DECEMBER 2020** which can be accessed from <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

### VALUE ADDITIONS FROM IASBABA

- **Must Read and Connecting the dots.**
- **Also, we have introduced Prelim and mains focused snippets and Test Your Knowledge (Prelims MCQs based on daily current affairs) which shall guide you for better revision.**
- **'Must Read' section**, will give you important links to be read from exam perspective. This will make sure that, you don't miss out on any important news/editorials from various newspapers on daily basis.
- Under each news article, **'Connecting the dots'** facilitates your thinking to connect and ponder over various aspects of an issue. Basically, it helps you in understanding an issue from multi-dimensional view-point. You will understand its importance while giving Mains or Interview.

**Must Read Articles:** We have not included them in the magazine. Those following DNA on daily basis may follow it- <https://iasbaba.com/current-affairs-for-ias-upsc-exams/>

***"Tell my mistakes to me not to others, because these are to be corrected by me, not by them."***

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## HISTORY/CULTURE/GEOGRAPHY

### [Annapurna Idol to be brought back from Canada](#)

**Part of:** GS Prelims and GS-I – Culture & GS-II – International Relations

**In news**

- An ancient idol of the goddess Annapurna, stolen from India about a century ago, is being brought back from Canada.
- Annapurna is the goddess of food.
- The 18th-century idol, carved in the Benares style, is part of the University of Regina, Canada's collection at the MacKenzie Art Gallery.



**Do you know?**

- A few weeks ago, 13th-century old bronze idols of Lord Rama, Lakshmana and goddess Sita were handed to the Tamil Nadu government from the UK recently.
- Between 2014 and 2020, the government has been able to retrieve 40 antiquities from various countries.
- Between 1976 and 2014, as per ASI records, 13 antique pieces had been repatriated to India.

### [Hampi Stone Chariot](#)

**Part of:** GS Prelims and GS-I – Temple and Architecture

**In news**

- The Archaeological Survey of India (ASI) has taken steps to protect the stone chariot inside Vittala Temple complex at the UNESCO World Heritage site of Hampi, Karnataka.
- Tourists can no longer get too close to the iconic stone chariot.

**Important value addition**

**Hampi chariot**

- The chariot inside the temple complex is a shrine dedicated to Garuda, but the sculpture of Garuda is now missing.
- The Hampi chariot is one among the three famous stone chariots in India.
- The other two are in Konark (Odisha) and Mahabalipuram (Tamil Nadu).
- It was built in the 16th century by the orders of King Krishnadevaraya, a Vijayanagara ruler.

- The delicately carved chariot at Hampi reflects skill of temple architecture under the patronage of Vijayanagara rulers who reigned from 14th to 17th century CE.



### Vittala Temple

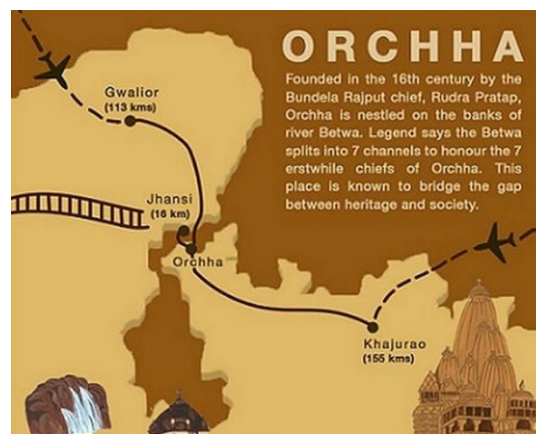
- It was built in the 15th century during the rule of Devaraya II, one of the rulers of the Vijayanagara Empire.
- It is dedicated to Vittala.
- Vittala is said to be an incarnation of Lord Vishnu.
- Dravidian style adorns the built of the complex, which is further enhanced with elaborate carvings.

### Gwalior and Orchha included in World Heritage City

**Part of:** GS Prelims and GS-I – Society; Culture; History

**In news**

- Gwalior and Orchha of Madhya Pradesh have been included in the list of World Heritage City by UNESCO.



### Important value addition

#### Orchha

- Orchha located in the Bundelkhand region of Madhya Pradesh.
- Orchha is popular for its temples and palaces.
- It was the capital of the Bundela kingdom in the 16th century.
- The famous spots in the town are Raj Mahal, Jehangir Mahal, Ramraja Temple, Rai Praveen Mahal, and Laxminarayan Mandir.
- After inclusion in the World Heritage City list, chemical treatment of historic spots like Mansingh Palace, Gujri Mahal and Sahastrabahu Temple will be done so that art inscribed on them will become more visible.

#### Gwalior

- Gwalior was established in 9th century.
- It was ruled by Gurjar Pratihar Rajvansh, Tomar, Baghel Kachvaho and Scindias.
- The memorabilia left by them is found in abundance in memorials, forts and palaces in the area.
- It is known for its palaces and temples, including the intricately carved Sas Bahu Ka Mandir temple.
- The Gwalior Fort occupies a sandstone plateau overlooking the city and is accessed via a winding road lined with sacred Jain statues.
- Within the forts high walls is the 15th-century Gujari Mahal Palace, now an archaeological museum.

#### Related articles:

- Hampi Heritage site: [Click here](#)

### [Hawker Culture in Singapore included in UNESCO List of Intangible Cultural Heritage of Humanity](#)

**Part of:** GS Prelims and GS-I – Culture & GS-II – International relations

#### In news

- Hawker Culture in Singapore has been inscribed on the UNESCO Representative List of the Intangible Cultural Heritage of Humanity at the 15th session of the Intergovernmental Committee (IGC) that was held online.

### Important value additions

#### Hawker Culture in Singapore

- It is a living heritage shared by those who prepare hawker food and those who dine and mingle over hawker food in community dining spaces called hawker centres.
- It reflects Singapore's multicultural identity as a people and nation, and resonates strongly with Singaporeans across all races and social strata.

#### UNESCO's List of Intangible Cultural Heritage

- This list is made up of those intangible heritage elements that help demonstrate diversity of cultural heritage and raise awareness about its importance.
- **Established in:** 2008 when the Convention for Safeguarding of the Intangible Cultural Heritage came into effect.
- Intangible Cultural Heritage of India, recognized by UNESCO:

13 ICH traditions recognised by UNESCO	
1. Tradition of Vedic chanting, 2008	8. Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir, India, 2012
2. Ramlila, the traditional performance of the Ramayana, 2008	9. Sankirtana, ritual singing, drumming and dancing of Manipur, 2013
3. Kutiyattam, Sanskrit theatre, 2008	10. Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab, India, 2014
4. Ramman, religious festival and ritual theatre of the Garhwal Himalayas, India, 2009	11. Yoga, 2016
5. Mudi yettu, ritual theatre and dance drama of Kerala, 2010	12. Nowruz, 2016
6. Kalbelia folk songs and dances of Rajasthan, 2010	13. Kumbh Mela, 2017
7. Chhau dance, 2010	

- The Ministry of Culture has also launched the draft National List of Intangible Cultural Heritage (ICH) of India

#### Related article:

- Culture related terms: [Click here](#)

### [T.N. government gives nod for Jallikattu](#)

**Part of:** GS Prelims and GS-I – Culture

#### In news

- The Tamil Nadu government has permitted jallikattu to be held across the State during the upcoming Pongal season.

#### Key takeaways

- The sport would be subject to fresh restrictions in view of the COVID-19 pandemic.
- Not more than 300 bull tamers would be allowed to take part in a jallikattu, 'manjuvirattu' or 'vadamadu' event.
- All necessary precautions have to be taken with regard to prevailing COVID-19 pandemic.

#### Important value additions

- Jallikattu is referred to as bull taming event.
- Practiced in Tamil Nadu as a part of Pongal.
- 'jallikattu' is derived from Tamil words Jalli refers to gold or silver coins, Kattu means 'tied'.
- Found mentioned in the Sangam literature (2500 years ago).
- It is controversial because the sport often results in major injuries and even deaths of both bulls and humans.

- Supreme Court in 2014 banned Jallikattu in response to Animal Welfare Board of India (AWBI) and People for Ethical Treatment of Animals (PETA) petitions citing cruelty to animals.
- The article 51A of the constitution states that citizens should safeguard the wildlife and forests and have compassion for living creatures.

## Madhya Pradesh Government organizes 'Raag-Bhopali' exhibition to promote Zari-Zardozi

**Part of:** GS Prelims and GS-I – Culture

### **In news**

- Madhya Pradesh Government is organizing 'Raag-Bhopali' exhibition to promote Zari-Zardozi crafts of Bhopal.

### **Important value additions**

- Embroidery done with metallic threads is called kalabattu and forms the zari.
- The main zari production Centre is Bhopal, Madhya Pradesh.

### **Process**

- Here the metal ingots are melted into metal bars called pasa from which lengths are got by beating it after treatment.
- This is then pulled through perforated steel plates to make it into wires, followed by the tarkashi process to make it thin with rubber and diamond dies.
- The last stage is called badla where the wire is flattened and twisted with silk or cotton thread to become kasab or kalabattu.

### **Different kinds of zari work**

- **Zardozi:** This is a heavy and more elaborate embroidery work which uses varieties of gold threads, spangles, beads and gota.
- It is used to embellish wedding outfits, heavy coats, cushions, curtains etc.
- **Kamdani :** This is a lighter needlework which is done on lighter material like scarves, veils, and caps.
- **Mina Work:** This is thus called owing to its resemblance with enamel work.
- The embroidery is done in gold.

## POLITY/GOVERNANCE

### NRI Voting

**Context:** The Election Commission (EC) approached the Law Ministry to permit NRIs to cast their votes from overseas through postal ballots.

The Commission informed the government that it is “technically and administratively ready” to extend the **Electronically Transmitted Postal Ballot System (ETPBS)** to voters abroad for elections next year in Assam, West Bengal, Kerala, Tamil Nadu and Puducherry.

#### **What is the current process of voting for Indian citizens living abroad?**

- An NRI can vote in the constituency in which her place of residence, as mentioned in the passport, is located.
- She can only vote in person and will have to produce her passport in original at the polling station for establishing identity.
- Voting rights for NRIs were introduced only in 2011, through an amendment to the Representation of the People Act 1950.

#### **What is current of strength of NRI voters?**

- According to a UN report of 2015, India’s diaspora population is the largest in the world at 16 million people.
- Registration of NRI voters, in comparison, has been very low: a little over one lakh overseas Indians registered as voters in India, according to the EC.
- In last year’s Lok Sabha elections, roughly 25,000 of them flew to India to vote.

#### **If approved, how will voting by postal ballots work for NRIs?**

- According to the EC proposal, any NRI interested in voting through the postal ballot in an election will have to inform the Returning Officer (RO) not later than five days after the notification of the election.
- On receiving such information, the RO will dispatch the ballot paper electronically.
- The NRI voters will download the ballot paper, mark their preference on the printout and send it back along with a declaration attested by an officer appointed by the diplomatic or consular representative of India in the country where the NRI is resident.
- It’s not clear, at this moment, if the voter will return the ballot paper herself through ordinary post or drop it off at the Indian Embassy, which may then segregate the envelopes constituency-wise and send them to the Chief Electoral Officer of the state concerned for forwarding to the RO

#### **How and when did the proposal originate?**

- The EC began to look for options to enable NRIs to vote from overseas after it received several requests, including one from former Rajya Sabha MP and industrialist Naveen Jindal and the Ministry of Overseas Affairs, and three writ petitions were filed by NRIs in the Supreme Court in 2013 and 2014.
- A 12-member committee was set up after the 2014 Lok Sabha elections to study mainly **three options — voting by post, voting at an Indian mission abroad and online voting.**

- The committee ruled out online polling as it felt this could compromise “secrecy of voting”.
- It also shot down the proposal to vote at Indian missions abroad as they do not have adequate resources.
- In 2015, the panel finally recommended that NRIs should be given the “additional alternative options of e-postal ballot and proxy voting”, apart from voting in person.
- Under proxy voting, a registered elector can delegate his voting power to a representative. The Law Ministry accepted the recommendation on proxy voting.

#### **What has been the response of Ministry of External Affairs (MEA)?**

- The MEA expressed strong reservations over attesting the declaration that NRI voters will have to send along with their marked ballot papers.
- The MEA had said “diplomatic missions do not have the logistical wherewithal to handle attestation for a large number of overseas electors” and that they would have to seek the permission of the host country for organising such activity, which may be difficult in non-democratic countries

#### **What happened to the proposal to grant proxy voting rights to overseas electors?**

- The Union Cabinet passed the proposal on proxy voting rights for NRIs in 2017. The government then brought a Bill amending the Representation of the People Act 1950.
- The Bill was passed by Lok Sabha and was awaiting Rajya Sabha’s approval when it lapsed with the dissolution of the 16th Lok Sabha. This proposal hasn’t been revived yet.
- In its latest letter, the EC pushed only for postal voting rights for NRIs, not proxy voting. To extend the postal voting facility to overseas voters, the government only needs to amend the Conduct of Election Rules 1961. It doesn’t require Parliament’s nod.

#### **Conclusion**

At present, postal ballots are allowed for certain categories of voters living in India. The new proposal is for overseas voters.

### [Interfaith marriages: Controversy surrounding “Love Jihad”](#)

**Context:** With Uttar Pradesh leading the way, a set of states now plan to pass laws to end what they call “love jihad”.

#### **What is “Love Jihad”?**

- Love Jihad, also called Romeo Jihad, is an alleged activity under which young Muslim boys and men are said to reportedly target young girls belonging to non-Muslim communities for conversion to Islam by feigning love.
- There is no legal sanction to political terms such as ‘love jihad’.
- Even though individual reports have spread, all official investigations in India launched in 2009, 2010, 2012 and 2014 have found no evidence of the activity

#### **About The Uttar Pradesh Prohibition of Unlawful Religious Conversion Law, 2020**

- **Immediate Context:** The immediate context for such a law is a recent Allahabad High Court judgment which in a recent ruling declared that the conversion for the sole purpose of marriage as “null and void”.
- **Prohibition on forceful or fraudulent Conversion:** The proposed law says that those found guilty of conversion done through “misrepresentation, force, undue influence, coercion, allurement or



by any fraudulent means” in contravention of the law would face jail term of one to 5 years, and a minimum fine of Rs 15,000.

- **Marriage for the sole purpose of unlawful conversion:** The law also says that a marriage will be declared “shunya” (null and void) if the “sole intention” of the same is to “change a girl’s religion”.
- **Cognizable and non-bailable offences:** Notwithstanding anything mentioned in the Code of Criminal Procedure, 1973; all the offences under this law shall be cognizable and non-bailable and triable by the Court of Sessions.
- **Approval for Conversions:** Anyone wanting to convert into another religion would have to give it in writing to the District Magistrate at least two months in advance. Upon receiving the information, the said officer will conduct an enquiry to real intention, purpose and cause of the proposed religious conversion. If the proposed conversion contradicts the provisions of this law, it would be illegal and void
- **Burden of Proof:** It would be the responsibility of the one going for the religious conversion to prove that it is not taking place forcefully or with any fraudulent means. In case, any violation is found under this provision, then one faces a jail term from 6 months to 3 years and fine of minimum Rs 10,000.

#### What are the criticism of UP Law

- **Interference with Personal Liberty:** The law plans to outlaw religious conversion which may take place for marriage purposes. This interferes with personal liberty.
- **Curtails Freedom of Religion:** Based on Articles 25 to 28, an Indian citizen is guaranteed the freedom to practise any religion of his or her choice. The above UP law curtails this freedom. The State wants to intervene not only in the citizens’ private relationship with God, but also in the choice of their spouse.
- **Against Article 21 (Right to Life):** The right to marry a person of one’s choice is integral to Article 21 of the Constitution. Intimacies of marriage lie within a core zone of privacy, which is inviolable and the choice of a life partner, whether by marriage or outside it, is part of an individual's 'personhood and identity'.
- **Against Right to Privacy:** In SC’s K.S. Puttaswamy v UOI (2017) judgment, it read the “right of choice of a family life” as a fundamental right. The regressive law limits the choice of a prospective spouse such that this spouse would only be one approved by the State.
- **Laws exist to deal with Inter-Faith Marriages:** The domain of matrimony is occupied by separate laws governing weddings that take place under religious traditions, and the Special Marriage Act that enables a secular marriage.

#### Conclusion

India is a 'free and democratic country' and any interference by the State in an adult’s right to love and marry has a 'chilling effect' on freedoms

#### Connecting the dots

- Special Marriages Act: Click [Here](#)
- Minimum [age of marriage for women](#)

### [Foundation stone laid for New Parliament Building](#)

**Part of:** GS Prelims and GS-II – Parliament

**In news**

- Indian Prime Minister laid the foundation stone of the New Parliament Building recently.

#### Key takeaways

- The new parliament building is a part of ₹ 20,000 crore Central Vista project.
- The four-story building will be triangular and its interiors will have three national symbols - the lotus, the peacock and the banyan tree - as its themes.
- The parliament building will be ready in 2022.
- The old Parliament building will be turned into a museum.
- The new Lok Sabha and Rajya Sabha halls will have increased seating capacities.
- In addition, seating in the Lok Sabha hall can be expanded to 1,272 to host joint sessions.
- Dholpur stone will be the primary construction material and red granite may replace red sandstone in some interior sections.
- The building will be equipped with modern audio-visual communication systems.
- It will also be fully wheelchair- and disabled-access friendly.

### Karnataka's New Anti-Cow Slaughter Bill

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### In news

- Karnataka passed the Karnataka Prevention of Slaughter and Preservation of Cattle Bill (2020) in the Assembly.

#### Key takeaways

- The Bill envisages a ban on all forms of cattle slaughter and stringent punishment for offenders.
- 'Beef' is defined as the flesh of cattle in any form.
- The word 'cattle' is defined as "cow, calf of a cow and bull, bullock, and he or she buffalo below the age of 13 years".
- The Bill also terms shelters established for the protection and preservation of cattle registered with the Department of Animal Husbandry and Fisheries as 'gau shalas'.
- Police officers ranked sub-inspector and above or a competent authority will have the power to search premises and seize cattle and materials used or intended to use to commit the offence.
- Cow slaughter is termed as a cognizable offence in the bill.
- Violators can attract 3 to 7 years of imprisonment.
- While a penalty between Rs 50,000 and Rs 5 lakh can be levied for the first offence, second and subsequent offences can attract penalties ranging between Rs 1 lakh and Rs 10 lakh.

### SC upholds Allahabad HC decision with regard to exotic wildlife species

**Part of:** GS Prelims and GS-II – Judiciary

#### In news

- Recently, The Supreme Court upheld an Allahabad High Court order which had granted immunity from investigation and prosecution if one declared illegal possession of exotic wildlife species between June and December, 2020.
- This was under a new amnesty scheme announced by the Centre.

## Important value addition

### Government's voluntary disclosure scheme

- **Ministry:** The Ministry of Environment, Forest and Climate Change (MoEFCC)
- It released an advisory on a one-time voluntary disclosure scheme that allows owners of exotic live species that have been acquired illegally to declare their stock to the government between June and December 2020.
- With this scheme, the government aims to address the challenge of zoonotic diseases, develop an inventory of exotic live species for better compliance under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and regulate their import.
- Presently, the amnesty scheme is just an advisory and not a law.
- The disclosure has to be done online through MoEFCC's Parivesh portal.
- The advisory has defined exotic live species as animals named under the Appendices I, II and III of the CITES.
- It does not include species from the Schedules of the Wild Life (Protection) Act 1972.

### Inadequacies of Justice Delivery System.

**Context:** The citizens of the country expect the Judicial institution and its constituents to be ideal. As a result of the unrelenting focus on the Supreme court, the other inadequacies of the system don't get as much public attention. A few important ones are dealt with below.

#### 1. Spending on judiciary

- The issue of spending on judiciary is equated with a call for increasing the salaries of judges and providing better court infrastructure. Such perceptions are unfortunate.
- India has one of the most comprehensive legal aid programmes in the world, the **Legal Services Authority Act of 1987**. Under this law, all women, irrespective of their financial status, SCs, STs and children are entitled to free legal aid.
- This means that a significant proportion of the population falls — or is supposed to fall — under a free legal aid regime. However, in reality, this law is a dead letter.
- There has been little effort on the part of successive governments to provide a task force of carefully selected, well-trained and reasonably paid advocates to provide these services.
- In comparison, the system of legal aid in the U.K. identifies and funds several independent solicitor offices to provide such services. If support is withdrawn, many solicitor offices that provide these invaluable services would collapse and with that, the rule of law. India is yet to put in place anything similar to this.

#### 2. Poor Judge Population Ratio

- The U.S. has about 100 judges per million population. Canada has about 75 and the U.K. has about 50.
- On the other hand, **India has only 19 judges per million population**. Of these, at any given point, at least one-fourth is always vacant.
- While vacancies to the Supreme Court and the High Courts is hotly debated, hardly any attention is focused on this gaping inadequacy in lower courts which is where the common man first comes into contact with the justice delivery system.
- **In All India Judges Association v. Union of India (2001)**, the Supreme Court had directed the Government of India to increase the judge-population ratio to at least 50 per million population within five years from the date of the judgment. This has not been implemented.

### 3. Access to Justice

- Though 'access to justice' has not been specifically spelt out as a fundamental right in the Constitution, it has always been treated as such by Indian courts.
- In *Anita Kushwaha v. Pushpa Sadan* (2016), the Supreme Court held unambiguously that "life" implies not only life in the physical sense but a bundle of rights that also means right to access justice
- Further, the court pointed out four important components of access to justice. It pointed out the **need for adjudicatory mechanisms**. It said that the mechanism must be **conveniently accessible** in terms of distance and that the process of adjudication must be **speedy** and **affordable** to the disputants.

### 4. Other Issues

- A disproportionate amount of attention that is given to the functioning of the Supreme Court, important as it is, distracts from above and similar issues.
- Government is yet to draw out a national policy and road map for clearing backlogs and making judicial delivery smooth and efficient
- Increasing tribunalisation of the justice delivery process
- The extortionate court fees payable to access justice in civil suits in some States;
- The poor integration of technology into the system

### Conclusion

Let us assume that the apex court achieves the distinction of being "ideal" in the near future, of being all things to all people. Still, a fine mind alone is of little avail if the rest of the body lies disabled, as the justice delivery system is today.

## [Winter session Of Parliament cancelled this year due to Covid-19](#)

**Part of:** GS Prelims and GS-II – Parliament; Constitution

### In news

- Due to Covid-19, the Winter session of the Parliament has been cancelled this year.
- Budget Session shall be held in January, 2021.

### Key takeaways

- The power to convene a session of Parliament rests with the government.
- The decision is taken by the Cabinet Committee on Parliamentary Affairs, which currently comprises nine ministers, including Defence, Home, Finance, and Law Ministers.
- The decision of the Committee is formalised by the President, in whose name MPs are summoned to meet for a session.
- The summoning of Parliament is specified in Article 85 of the Constitution.
- This provision specified that the central legislature had to be summoned to meet at least once a year, and that not more than 12 months could elapse between two sessions.
- India does not have a fixed parliamentary calendar.
- By convention, Parliament meets for three sessions in a year.

## [Election Commission proposes to extend the facility of postal ballots to overseas and NRIs](#)

**Part of:** GS Prelims and GS-II – Constitution

**In news**

- The Election Commission of India (ECI) wrote to the Law Ministry, proposing to extend the facility of postal ballots to (eligible) overseas, non-resident Indians (NRIs) for the Assembly elections in Assam, Kerala, Puducherry, Tamil Nadu and West Bengal in 2021.

**Key takeaways**

- The ECI proposed amending the Conduct of Election Rules, 1961, in order to allow this facility.
- The postal ballots will be sent to NRIs electronically and they will send these ballots after choosing their candidate via post.
- This partially electronic facility is now available for service voters (being a member of the armed Forces of the Union; or a member of a force to which provisions of the Army Act, 1950) through the Electronically Transmitted Postal Ballot System, or ETPBS.

**Do you know?**

**How can overseas voters currently vote in Indian elections?**

- Prior to 2010, an Indian citizen who is an eligible voter and was residing abroad for more than six months owing to employment, education or otherwise, would not have been able to vote in elections.
- After the passing of the Representation of the People (Amendment) Act, 2010, eligible NRIs who had stayed abroad beyond six months have been enabled to vote, but only in person at the polling station where they have been enrolled as an overseas elector.

**Related article:**

- Election Commission: [Mind map](#)

## [Increasing Parliament's efficacy and effectiveness](#)

**Context:** The only way to ensure orderly business will be to transact most of the business in committees.

**Committee System**

If the committee system has to be made effective and credible, several steps need to be taken to make their working non-partisan, some of the steps are as follow:

- **More Transparency:** Opening the deliberations of the committees to the public, to electronic, print, and digital media
- **Civic Participation:** Giving the committees assistance of NGOs and non-profit organisations in the respective fields.
- **Channel for wider dissemination:** Starting a Public Broadcasting Service channel as in the UK and USA for wider dissemination of the deliberations of the committees.
- **Rights & Privileges:** If Parliament is to transact its business through the committees, they must have all the rights and privileges of the whole House.

- **Greater Participation by Ministers:** The Council of Ministers — as well as the Prime Minister — must be encouraged to appear before the committees.
- **Joint Parliamentary Committee:** It is also imperative to reassert the role of the joint parliamentary committee and to restore its credibility.

#### **Best practices of parliamentary democracy in other countries**

- Legislation must be enacted on matters pertaining to the functioning of Parliament — to lay down an annual calendar for Parliament sessions, minimum duration of sessions in a year etc, as in several countries.
- A law should be enacted to regulate administration of Parliament as in the UK, Australia and New Zealand.
- Steps also need to be taken to create a parliamentary budget office as in the US, UK and Canada for independent scrutiny of the budget proposals and their placement before the committees of Parliament.
- The oversight of Parliament must be increased to approving international treaties and reviewing the work of intelligence and investigating agencies.

#### **Connecting the dots**

- What are the issues with respect to Indian Parliament?
- The PMO Office has become too strong which is sidelining the Parliament?

### [Manipur's ZOMI renews its demand for the creation of Zoland Territorial Council](#)

**Part of:** GS Prelims and GS-I – Tribal issues & GS-II – Constitution

#### **In news**

- Manipur's Zomi ethnic group has renewed its demand for the creation of Zoland Territorial Council (ZTC) under the Sixth Schedule of the Constitution, a self-administered zone on the lines of the Bodoland Territorial Council in Assam.

#### **Important value additions**

##### **Zomi**

- The Zou people or Zomi are an indigenous community living along the frontier of India and Burma.
- They are a sub-group of the Zo people (Mizo-Kuki-Chin).
- In India, they live with and are similar in language and habits to the Paite and the Simte peoples.
- In India, the Zou are officially recognized as one of the 33 indigenous peoples within the state of Manipur, and are one of the Scheduled tribes.
- According to the 2001 Census, the Zou/Jou population in Manipur is around 20,000, less than 3% of the total population.
- The community is concentrated in Churachandpur and Chandel districts of Manipur.

### [A.P. High Court order and Article 356](#)

**Context:** In October, in the Andhra Pradesh high court order Justice Uma Devi converted the hearings on a batch of habeas corpus petitions and pleas alleging police excess into a hearing on whether there is a “constitutional breakdown” in Andhra Pradesh, requiring a declaration of President’s rule.

#### **What has the State argued?**

- **Unprecedented:** The order of the High Court, on October 1, came while deciding *habeas corpus* petitions filed by relatives of persons remanded in judicial custody or on bail. The High Court had *suo motu* summoned the State counsel to assist it in deciding “whether in circumstances prevailing in the State of AP, the court can record a finding that there is constitutional breakdown in the State or not”.
- **Lacks Basis:** The state government then asked for that order to be recalled, saying none of the original applications had asked the question of “Constitutional Breakdown”.
- **Against Article 356:** Judiciary has no role in deciding whether there is Constitutional breakdown in the state, necessitating President’s rule. This power is vested in the executive under Article 356 of the Constitution.
- **Against Doctrine of Separation of Powers:** The HC Order is a “serious encroachment” on the powers of the executive as enumerated under the Constitution and is thus violative of doctrine of Separation of powers.
- **Appealed to Supreme Court:** The order was clearly seen as a case of judicial over-reach by the A.P. High Court and was thus appealed to Supreme Court

#### What did Supreme Court say?

- The Supreme Court stayed the order issued by the AP High Court asking the Andhra Pradesh government whether there was breakdown of constitutional machinery in the state.
- Supreme Court observed that they had not seen any order issued like this by the AP High Court in any case and the apex court found it to be disturbing.
- The Court directed issue of notice and stay and ordered the registry to list the case after the Supreme Court vacation.

#### Significance of the Incident

- The HC was shocking as it opens up the possibility of **use or even misuse of Article 356 by the judiciary.**
- The Supreme Court’s order comes in the wake of incidents pointing to a tussle between the judiciary and the elected government in Andhra Pradesh.
- CM Jagan Mohan Reddy had, in [an unprecedented letter to the CJI](#), complained about the alleged hostile attitude of the High Court against him and his government besides making controversial allegations against a senior Supreme Court judge.
- The onus is now on the Supreme Court to put an end to the unseemly **tussle between the judiciary and government in the State.** Ordering an internal inquiry into the Chief Minister’s letter would be a good beginning.
- A clear nullification of the High Court order will also ensure that such legal adventures impinging upon the separation of powers in the State are not repeated.

#### Value Addition about Article 356

- Article 356 of the Constitution empowers President to proclaim President’s rule in the state if he, on receipt of report from the Governor of the State or **otherwise**, is satisfied that a situation has arisen in which the government of the State cannot be carried on in accordance with the provisions of this Constitution.
- No liberal democratic Constitution in the world has a provision such as Article 356 that gives the central government the power to dismiss a democratically-elected State government except the Constitution of Pakistan.
- Both India and Pakistan borrowed this provision from the Government of India Act, 1935.

- Interestingly, the leaders of our freedom struggle were so very opposed to this provision that they forced the British government to suspend it; thus, Section 93 of the Government of India Act, 1935 was never brought into effect.
- The provision which we had opposed during our freedom struggle was incorporated in the Constitution strangely in the name of democracy, federalism and stability.

#### Connecting the dots:

- National Judicial Appointments Commission
- Judicial Standards and Accountability Bill



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## SOCIAL ISSUE/WELFARE

### IIT-Bombay comes up with Urban Quality Of Life Index

**Part of:** GS Prelims and GS-I – Society

**In news**

- IIT-Bombay researchers have come up with an urban quality of life index which is related to real urban life in India presently.

**Key takeaways**

- **Top city:** Mumbai
- **The other top cities:** Delhi, Kolkata and Chennai.
- **Most women-friendly:** Chennai
- **Least women-friendly:** Patna
- **Highest crime rate against women:** Jaipur
- **Lowest crime rate against women:** Chennai
- **Widest gap in literacy rate between men and women:** Jaipur (13.2%)
- **Lowest gap in literacy rate between men and women:** Kolkata (5.4%).
- **Highest overall Literacy rate:** Pune (91%)
- **Lowest overall Literacy rate:** Hyderabad (83%).
- **Highest unemployment rate for women:** Patna
- Gender parity was taken into consideration for the first time.
- According to the research, women experience cities differently.
- Meeting women's needs becomes essential in promoting sustainable urban development.
- Also, only 36% urban households in Patna have access to treated tap water.

### IIT-B RANKING OF INDIAN CITIES

Index	Highest ranked	Lowest ranked
Basic amenities	Pune	Patna
Economic development	Mumbai	Patna
Safety and security	Kolkata	Patna
Transportation access	Delhi	Indore
Environmental impact	Mumbai	Lucknow
Infrastructure development	Kolkata	Patna
Gender role	Chennai	Patna

**Related articles:**

- **Development of Smart Cities and Ease of Living Index:** [Click here](#)

## Tamil Nadu Commission for Case-wise Data

**Context:** Tamil Nadu CM Edappadi K. Palaniswami has announced that a Commission would be set up to conduct a survey for collecting caste-wise data in Tamil Nadu.

It is not clear if this will involve a full headcount of all members of every caste, or whether it is better described as a 'survey' than a 'census'.

### **Do You Know?**

- The Centre conducted a 'Socio-Economic Caste Census' (SECC) in 2011 throughout the country, but it did not make public the caste component of the findings.
- In Karnataka, the outcome of a similar exercise has not been disclosed to the public.

### **Is collection of caste details part of the census?**

- Caste was among the details collected by enumerators during the decennial Census of India until 1931.
- It was given up in 1941, a year in which the census operation was partially affected by World War II, as it involved additional costs

### **Has there been criticism of including caste in the census?**

- The principal argument against taking caste particulars of individuals is that it tends to perpetuate the caste system.
- It has been alleged that the mere act of labelling persons as belonging to a caste tends to perpetuate the system.
- Currently, Tamil Nadu has 69 per cent reservation, including 20 per cent for MBCs, the list of which has 108 communities.

### **What was the view after Independence?**

- R.A. Gopaldaswami, the first Indian Registrar-General of independent India, said in the 1951 report: "The 1951 census was not to concern itself with questions regarding castes, races and tribes, except insofar as the necessary statistical material related to 'special groups' and certain other material relating to backward classes collected and made over to the Backward Classes Commission." "
- 'Special Groups' has been explained as referring to Scheduled Castes, Scheduled Tribes, Anglo-Indians and certain castes treated provisionally as 'backward' for the purposes of the census.
- This implies that BC data were collected, but not compiled or published.

### **How have caste details been collected so far?**

- While SC/ST details are collected as part of the census, details of other castes are not collected by the enumerators.
- The main method is **by self-declaration to the enumerator.**
- So far, backward classes commissions in various States have been conducting their own counts to ascertain the population of backward castes.
- The methodology may vary from State to State.
- Details available about some commissions in the public domain suggest that these panels use methods like distribution of questionnaires, meeting with representatives of stakeholders, touring relevant areas and localities
- In some cases, such as the J.A. Ambasankar Commission in Tamil Nadu and the Venkataswamy Commission in Karnataka, there has been door-to-door enumeration.

### What about SECC 2011?

- The Socio-Economic Caste Census of 2011 was a major exercise to obtain data about the socio-economic status of various communities.
- Even though there could be an overlap in the dataset of SECC 2011 with that of the census 2011 taken that year, the findings could be markedly different.
- The general census is conducted in a small window of a month, while the caste census is conducted over a longer period of time, and there is a good deal of revision and correction.
- The **SECC 2011 had two components**: a survey of the rural and urban households and ranking of these households based on pre-set parameters, and a caste census.
- However, only the details of the **economic conditions** of the people in rural and urban households were **released**. The caste data have not been released till now.

### Why Caste data of SECC 2011 is not yet released?

- While a precise reason is yet to be disclosed, it is surmised that the data were considered too politically sensitive.
- Fear of antagonising dominant and powerful castes that may find that their projected strength in the population is not as high as claimed may be an important reason.

### What is the legal imperative for a caste count?

- **Basis for Reservation** Over the last two decades, the Supreme Court has been raising questions about the basis for reservation levels being high in various States.
- **Need Quantifiable Data**: In particular, it has laid down that there should be quantifiable data to justify the presence of a caste in the backward class list, as well as evidence of its under-representation in services.
- **Regular Revision**: Supreme Court has also called for periodical review of community-wise lists so that the benefits do not perpetually go in favour of a few castes.
- **Equitable Reservation**: Many community leaders argue that knowing the precise number of the population of each caste would help tailor the reservation policy to ensure equitable representation of all of them.

### What are the Challenges associated with Caste Census?

- **Social Unrest**: While obtaining relevant and accurate data may be the major gain from a caste census, the possibility that it will lead to heartburn among some sections and can lead to social unrest.
- **Quota within Quota**: The details of Caste can also spawn demands for larger or separate quotas from groups found to be significant in number is a possible pitfall.
- **Caste Name Complexities**: Tabulating and categorising similar-sounding caste names and deciding on whether to treat some sections as separate castes or sub-castes of a community will also be a challenging task.

### Conclusion

- The constitutional goal of social transformation cannot be achieved without taking into account changing social realities

### Connecting the dots

- Quota within a Quota debate: Click [here](#)

- [Domicile-based job quota](#)

## [UP government launches scheme for Tharu Tribals](#)

**Part of:** GS Prelims and GS-I – Society

**In news**

- The Uttar Pradesh government has recently launched a scheme to take the unique culture of its ethnic Tharu tribe across the world.



**Key takeaways**

- The state government is working to connect Tharu villages in the districts of Balrampur, Bahraich, Lakhimpur and Pilibhit bordering Nepal, with the home stay scheme of the UP Forest Department.
- The idea is to offer tourists an experience of living in the natural Tharu habitat, in traditional huts made of grass collected mainly from the forests.

### **Important value addition**

**Tharu tribe**

- The community of Tharu people belongs to the Terai lowlands.
- Most of them are forest dwellers, and some practice agriculture.
- Tharus worship Lord Shiva as Mahadev, and call their supreme being “Narayan”, who they believe is the provider of sunshine, rain, and harvests.
- The Tharus live in both India and Nepal.
- In the Indian terai, they live mostly in Uttarakhand, Uttar Pradesh, and Bihar.
- A majority still lives off the forest.

**Do you know?**

- They speak various dialects of Tharu which is a language of the Indo-Aryan subgroup, and variants of Hindi, Urdu, and Awadhi.
- In central Nepal, they speak a variant of Bhojpuri, while in eastern Nepal, they speak a variant of Maithili.
- Tharu women have stronger property rights than is allowed to women in mainstream North Indian Hindu custom.

## [Vanchit Ikai Samooh Aur Vargon Ki Aarthik Sahayta \(VISVAS\) Yojana](#)

**Part of:** GS Prelims and GS-II – SCs and STs

**In news**

- Recently, National Backward Classes Finance & Development Corporation (NBCFDC) and National Scheduled Castes Finance and Development Corporation (NSFDC) entered in to MoA With Central Bank of India for implementation of Vanchit Ikai Samooh aur Vargon ki Aarthik Sahayta (VISVAS) Yojana.
- **Ministry:** Ministry of Social Justice & Empowerment

#### Key takeaways

- It is an Interest subvention Scheme for financial empowerment of economically marginalized OBC/SC Self Help Groups (SHGs) & Individuals.
- The scheme will benefit OBC/SC SHGs with loans up to Rs.4 Lakh and OBC/SC individuals with loan up to Rs.2 Lakh with a quick interest subvention benefit of 5% directly into the standard accounts of borrowing beneficiaries.

### New 'Policy on School Bag 2020' by the Ministry of Education

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### In news

- According to the new Policy on School Bag, School bags should not be more than 10% of the body weight of students across classes I to X and there should be no homework till class II.

#### Key takeaways

- The new Policy also recommends that the weight of the bag needs to be monitored on a regular basis in schools.
- They should be light-weight with two padded and adjustable straps that can squarely fit on both shoulders and no wheeled carriers should be allowed.
- The policy even recommends that the weight of each textbook may come printed on them by the publishers.
- The recommendations have been arrived based on various surveys and studies conducted by the National Council of Educational Research and Training (NCERT).
- The 'Policy also recommended good quality mid-day meal and potable water to all the students so that they need not carry lunch boxes or water bottles.
- The policy said there should be no bags in pre-primary.

### Nurses and midwives

**Context:** The year 2020 has been designated as “International Year of the Nurse and the Midwife”. It is well acknowledged that nurses and midwives will be central to achieving universal health coverage in India.

#### Do You Know?

- India’s nursing workforce is about two-thirds of its health workforce.
- The ratio of 1.7 nurses per 1,000 population is 43% less than WHO norm; it needs 2.4 million nurses to meet the norm.

#### Issues

- **Heavy Dependence on Private Players:** 91% of the nursing education institutions are private and weakly regulated.
- **Inadequate Faculty:** The faculty positions vacant in nursing college and schools are around 86% and 80%, respectively.
- **Structural Issues with Training:** There is a lack of job differentiation between diploma, graduate, and postgraduate nurses regarding their pay, parity, and promotion
- **Quality of Training:** The current nursing education is outdated and fails to cater to the practice needs. The quality of training of nurses is also diminished by the uneven and weak regulation.
- **Lack of Specialty Courses:** There are insufficient postgraduate courses to develop skills in specialties, and address critical faculty shortages both in terms of quality and quantity.
- **Regional Imbalance:** Inequities in distribution of nursing education institutions. Around 62% of them are situated in southern India.
- **Lack of Comprehensive Policy Focus:** The Indian Nursing Act primarily revolves around nursing education and does not provide any policy guidance about the roles and responsibilities of nurses in various cadres.
- **Non-standardised practices:** Nurses in India have no guidelines on the scope of their practice and have no prescribed standards of care. Mismatch of the role description and remuneration that befits the role sets the stage for the exploitation of nurses.
- **Accountability Issues:** Nurses are out of the purview of the Consumer Protection Act. This is contrary to the practices in developed countries where nurses are legally liable for errors in their work.
- **Social Status:** The disabling environment prevalent in the system has led to the low status of nurses in the hierarchy of health-care professionals. In fact, nursing has lost the appeal as a career option.

### Way Ahead

- **Improvement on Quality:** A common entrance exam, a national licence exit exam for entry into practice. Transparent accreditation, benchmarking, and ranking of nursing institutions too would improve the quality.
- **Database to know supply-demand:** A live registry of nurses, positions, and opportunities should be a top priority to tackle the demand-supply gap in this sector.
- **Regular Monitoring:** Periodic renewal of licence linked with continuing nursing education would significantly streamline and strengthen nursing education.
- **Legislative Amendments:** The Indian Nursing Council Act of 1947 must be amended to explicitly state clear norms for service and patient care, fix the nurse to patient ratio, staffing norms and salaries.
- **Federal Cooperation:** The jurisdictions of the Indian Nursing Council and the State nursing councils must be explained and coordinated so that they are in synergy.
- **Promoting Nursing as Career:** Incentives to pursue advanced degrees to match their qualification, clear career paths, opportunity for leadership roles, and improvements in the status of nursing as a profession.
- **Public-private partnership** between private nursing schools/colleges and public health facilities is another strategy to enhance nursing education.

### [Development Projects In Kutch Region](#)

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- Indian Prime Minister laid foundation stones for several development projects in Gujarat recently.

**Key takeaways****Hybrid Renewable Energy Park**

- Hybrid Renewable Energy Park is world's biggest Renewable Energy Park, being set up close to Indo Pak border, near Khavda village in Kutch district.
- It will produce 30 Giga watt solar and wind energy on a vast expanse of waste land.

**Desalination plant**

- A desalination plant shall also be coming up in Kutch district.
- This plant aims to convert sea water for potable purposes for a population 8 lakh of 300 villages.
- It assumes great importance for Kutch peninsula which is perennial rain-deficit area with no other source of water.

**Fully automated milk processing of Sarhad dairy**

- 130 crore rupees worth milk processing plant of Sarhad dairy, an apex dairy cooperative entity was also inaugurated virtually.
- This massive 2 lakh litre per day milk processing and packaging facility will come up under Rashtriya Kisan Vikas Yojna.

**[2020 State Of The Education Report For India: Vocational Education First](#)**

**Part of:** GS Prelims and GS-II – Health

**In news**

- The 'State of the Education Report for India 2020: Technical and Vocational Education and Training (TVET), was launched virtually by UNESCO New Delhi recently.

**Key takeaways**

- The second edition of the State of Education Report focuses on technical and vocational education and training (TVET).
- India has made considerable progress towards its goal of creating a skilled workforce of 110 million people by 2022, as stated in the National Policy of Skill Development and Entrepreneurship (NPSDE), released in 2015.
- It is presently training 10 million youth annually.
- The Report outlines a set of ten recommendations that should be adopted to help achieve the stated vision for TVET in the country.

**The ten recommendations:**

- Place learners and their aspirations at the centre of vocational education and training programmes

- Create an appropriate ecosystem for teachers, trainers and assessors
- Focus on upskilling, re-skilling and lifelong learning
- Ensure inclusive access to TVET for women, differently abled and disadvantaged learners
- Massively expand the digitalization of vocational education and training
- Support local communities to generate livelihoods by engaging in the preservation of tangible and intangible cultural heritage
- Align better with the 2030 Agenda for Sustainable Development
- Deploy innovative models of financing TVET
- Expand evidence-based research for better planning and monitoring
- Establish a robust coordinating mechanism for inter-ministerial cooperation

### Prime Minister's Special Scholarship Scheme (PMSSS)

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- AICTE has decided to release the instalment of Rs. 20,000/- as maintenance allowance under Prime Minister's Special Scholarship Scheme (PMSSS).

#### **Important value additions**

##### **Prime Minister's Special Scholarship Scheme (PMSSS)**

- An Expert Group was constituted by the Prime Minister for enhancing employment opportunity among youths of J&K and Ladakh and to formulate job opportunities in public and private sectors.
- **Implemented by:** J&K Cell of All India Council for Technical Education(AICTE), New Delhi.
- The scheme helps J&K Students to pursue undergraduate studies outside the Union Territory.
- **Aim:** To build the capacities of the youths of J&K and Ladakh by Educating, Enabling and empowering them to compete in the normal course.
- The youths are supported by way of scholarship in two parts - academic fee and maintenance allowance.
- **Main objectives:** (1) Evolving guidelines for proper implementation; (2) To Conduct Awareness Workshops about the Scheme; (3) To Conduct Counselling for admission of candidates to different programs/courses; (4) Disbursal of Scholarship for the eligible Candidates; (5) Redressal of Grievances of PMSSS Candidates.

### Accelerating India's Covid-19 Social Protection Response Programme

**Part of:** GS Prelims and GS-II – Policies and Interventions; Health

**In news**

- The Indian Government and the World Bank signed a \$400 million project to support India's efforts at providing social assistance to the poor and vulnerable households, severely impacted by the COVID-19 pandemic.
- The credit is from the International Development Association (IDA) – the World Bank's concessional lending arm.



**Key takeaways**

- This is the second operation in a programmatic series of two.
- The first operation of \$750 million was approved in May 2020.
- The programme will strengthen the capability of state and national governments in India to provide coordinated and adequate social protection to the poor and vulnerable from the shocks triggered by the COVID-19 pandemic.
- It will help further expand and deepen the coverage of India's social protection systems by helping these vulnerable groups in urban and peri-urban areas.

**Do you know?**

- The International Development Association is an international financial institution which offers concessional loans and grants to the world's poorest developing countries.
- The IDA is a member of the World Bank Group.
- It is headquartered in Washington, D.C., USA

**Related article:**

- World Bank's \$750 million agreement: [Click here](#)

**[Eight-member committee makes Recommendations on Reservation in IITs](#)**

**Part of:** GS Prelims and GS-II – Education

**In news**

- Recently, an eight-member committee, appointed by the government made recommendations for effective implementation of reservation in students' admissions and faculty recruitment in the Indian Institutes of Technology (IITs).

**Key takeaways**

- It was chaired by IIT Delhi's Director
- It had representatives of secretaries of the departments of Social Justice and Empowerment, Tribal Affairs, Department of Personnel and Training, Persons with Disabilities, among others.
- Its report was submitted to the Ministry of Education in June 2020.
- It has been made available under the Right to Information (RTI) Act, 2005 also.

**Recommendations**

- Being established and recognised as institutions of national importance, IITs should be added to the list of "Institutions of Excellence" mentioned in the Schedule to the Central Educational Institutions (Reservation in Teachers' Cadre) Act, 2019 (CEI Act).
- Implementation of reservation policies for all categories including Economically Weaker Sections (EWS) be restricted just to Assistant Professor Grade I and Grade II and not for levels above.
- Vacancies not filled in a particular year due to non-availability, be de-reserved in the subsequent year.
- Conduct of special recruitment drives to attract candidates from reserved categories.

- A system emphasising targeted goals over a period of time and not specific quotas be followed so that IITs can compete with other top institutions in the world in terms of excellence, output, research and teaching.
- The panel proposes a two-year Research Assistantship for students from reserved categories aspiring to join PhD programmes.

## [Human Freedom Index 2020 released](#)

**Part of:** GS Prelims and GS-I – Social Issues

**In news**

- The Human Freedom Index 2020 released recently placed India at the 111th spot out of 162 countries.
- India ranked 94 on the index in 2019.
- **Published by:** American think tank Cato Institute and Fraser Institute in Canada

**Key takeaways**

- **India's score:**
  - 6.30 out of 10 in personal freedom
  - 6.56 in economic freedom.
  - 6.43 in overall human freedom score
- **Top countries:** New Zealand, Switzerland and Hong Kong
- **USA and UK:** 17th rank
- War-torn Syria ranked the last on the list.
- **India's neighbouring countries:** (1) China - 129; (2) Bangladesh - 139; (3) Pakistan - 140.

**Do you know?**

- The report takes into account 76 indicators of personal, civil, and economic freedoms to rank 162 countries from 2008 to 2018.
- The institutes noted that the world has seen a notable decline in personal freedom since 2008.

## [Teacher vacancies at IITs and reservation](#)

**Background of the issue**

- **Additional Seats due to reservation:** The Indian Institutes of Technology (IITs) have a large number of faculty vacancies, as the student intake capacity was raised by over 50% during 2008-10 after reservation for Other Backward Classes students was introduced. Recently reservation for Economically Weaker Sections (EWS) has been added.
- **Expansion of IITs in recent decade:** Also, more IITs were opened during 2008-17, currently, there are 23 IITs.
- **Inadequate Teachers:** Since the ratio of students to teachers has come under strain, and the high bar for entry of teachers, starting with a doctoral degree, has shrunk the pool of eligible aspirants from reserved categories
- **Committee Formation:** In this background, the Education Ministry formed a committee headed by the Director of IIT Delhi, V. Ramgopal Rao to look at implementing the reservation system effectively.

**Why is it difficult to find candidates in reserved categories?**

- The Committee said in its report that the IITs, set up as institutions of national importance under a special law to contribute to national and even global development, had to pursue high quality teaching and research.
- Aspirants must therefore possess a PhD degree, as well as a superior academic record and “**high research accomplishments**” for teaching.
- About a decade ago, the student to faculty ratio was estimated at about 6:1, which facilitated closer monitoring and pursuit of projects that make IIT courses unique. This **faculty ratio later fell to 12:1**, and appears to be under further strain.
- The Education Ministry’s Committee has pointed out that the optimal is a ratio of 10:1, on the basis of which faculty numbers have been set.
- The reality is that **not enough candidates belonging to the reserved categories are going into research in engineering and technology**. Even among those who do, only a small group opt for a teaching career. This has sharply reduced the available pool from which the IITs can recruit teachers while adhering to reservation norms.
- The Committee was concerned that the absence of enough qualified faculty was coming in the way of the IITs improving their global ranking, although the academic system was capable of breaking into the top 50.

#### **What remedy is the Committee offering (recommendations)?**

- Student admissions and teachers’ appointments are covered by the Central Educational Institutions (Reservation in Admission) Act, 2006, and the CEI (Reservation in Teachers’ Cadre) Act, 2019. Beneficiaries belong to the Scheduled Castes, Scheduled Tribes, OBCs and EWS
- The Ministry Committee, met twice in the current year, and came up with two options and an action point to increase the talent pool.
- **Exemption by including in 2019 law:** According to the first, government could include the IITs in the schedule to the 2019 law on teachers’ recruitment, which would exempt these institutes from reservation, just as it does other institutions of excellence such as the Homi Bhabha National Institute, TIFR, Space Physics Laboratory and others.
- **De-reservation of positions if no suitable candidates are found in that year:** As a second option, the panel suggested that faculty at the level of Assistant Professor Grade I and II be given reservation, including for EWS, and the vacancies considered for the institution as a whole, and not for each department. Where suitable candidates from the reserved category are unavailable, the posts should be de-reserved in the next year, with approval from the Board of Governors. Also, Associate Professor and Professor posts should be exempted from reservation.
- **Government-sponsored preparatory programme to increase Pool:** To provide for a talent pool from among the reserved sections, the Ramgopal Rao panel has suggested the launch of two-year research assistantships fully funded by the Centre, with an option for the candidates to take up PhD studies and acquire qualifications that meet the rigorous standards of the IITs
- The recommendations have evoked a strong reaction, as they are seen as negating the objective of affirmative action through reservation.

#### **What is the government’s position?**

- The report of the Committee, which was obtained under the Right to Information Act by an interested citizen, is “under examination” by the government, according to the Ministry of Education.
- Although it aims at addressing a critical gap, the recommendation to do away with reservation is at odds with the stated position of the Central government.

- In November last year, the Education Ministry put out a notification pointing out that central educational institutions (CEIs), which would include IITs and IIMs, should ensure that faculty positions, including senior posts, fully met the norms of reservation.
- The Ministry now has a recommendation favouring no reservation, and a reiteration of the idea of treating an IIT as a single unit for the purpose of drawing up a roster of reserved posts, rather than go by individual departments.
- The single unit idea is also the intent of the 2019 law, which was first issued as an ordinance, to remove legal difficulties arising from court judgments that did not accept the logic.
- An analysis by PRS Legislative Research estimates that the composite method of calculation typically leads to a small rise in reserved posts, over the individual departments method. On the other hand, it also means that the reserved posts could be heavily represented in one department but there may be none in another.

#### Way Forward

- Diversity achieved through affirmative action such as compensatory discrimination in favour of some classes of citizens corrects historical distortions. For it to be fully realised, however, the concomitant is massive investments in the education system at all levels, which can raise the capability of students
- Governments must aim for progressive redistribution, for which policy should actively expand equal opportunity, starting with a strong, liberal public school system. This will strengthen diversity, and lay the foundation for the kind of scholarship that institutions of excellence need.

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### [Order issued for Matru Sahyogini Samiti in MP](#)

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### In news

- The Madhya Pradesh government has issued an order for the appointment of committees led by mothers to ensure better monitoring of services delivered at anganwadi or day care centres across the State.

#### Key takeaways

- It will be called 'Matru Sahyogini Samiti' or Mothers' Cooperation Committees,
  - These will comprise 10 mothers at each anganwadi representing the concerns of different sets of beneficiaries under the Integrated Child Development Services, or National Nutrition Mission.
  - The committees will include mothers of beneficiary children as well as be represented by pregnant women and lactating mothers who are enrolled under the scheme.
  - The Committees will also include a woman panch, women active in the community and eager to volunteer their support to the scheme, teachers from the local school, and women heads of self-help groups (SHG).
  - These mothers will keep a watch on weekly ration distribution to beneficiaries as well as suggest nutritious and tasteful recipes for meals served to children at the centres.
  - The move is being taken as per the mandate of the National Food Security Act, 2013 (NFSA).
-

## E-Sampada: A new Web Portal and Mobile App launched

**Part of:** GS Prelims and GS-II – Policies and Interventions

### In news

- The Directorate of Estates, Ministry of Housing and Urban Affairs recently launched a new Web Portal and Mobile App, e-Sampada.

### Key takeaways

- The new application provides a single window for all these services including allotment for over one lakh government residential accommodations, office space allotment to government organisations, etc.
- In its endeavour to provide 'One Nation, One System', the erstwhile four websites ([gpra.nic.in](http://gpra.nic.in), [eawas.nic.in](http://eawas.nic.in), [estates.gov.in](http://estates.gov.in), [holidayhomes.nic.in](http://holidayhomes.nic.in)), and two Mobile Apps (m-Awas & m-Ashoka5) of the Directorate of Estates have been integrated into one.

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## WOMEN ISSUE

### Bills proposing death penalty for rape approved by Maharashtra cabinet

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- In order to curb crimes against women and children in Maharashtra, the state cabinet approved two draft bills that propose death penalty for cases of rape, acid attack and child abuse.

**Key takeaways**

- The two interconnected bills are the Maharashtra Shakti Criminal Law (Maharashtra Amendment) Act 2020 and the Special Court and Machinery for Implementation of Maharashtra Shakti Criminal Law 2020.
- These bills are part of Shakti Act.
- They seek to amend relevant sections of the Indian Penal Code (IPC), Criminal Procedural Code (CrPC) and Protection of Children from Sexual Offences Act.
- The bills also have provisions to increase the quantum of punishment, including life term, cover new categories of crimes, and propose a mechanism for speedy trials.
- The media is not allowed to report the name of a rape victim.
- The proposed Acts will provide similar protection to victims of molestation and even acid attack.
- The draft bills propose to amend IPC Section 376 (rape) to increase the quantum of punishment to life term or death penalty in heinous cases where there's adequate conclusive evidence or exemplary punishment is warranted.

### Marital Rape

**Context:** Domestic violence in India is an entrenched problem, and it has only been exacerbated in the recent years.

**Vulnerability of Indian Women**

- **Domestic Violence:** About 70% of women in India are victims of domestic violence.
- **Rape:** National Crime Records Bureau's (NCRB) 'Crime in India' 2019 report shows that a woman is raped every 16 minutes, and every four minutes, she experiences cruelty at the hands of her in-laws.
- **Reporting of Sexual Violence:** An analysis of National Family Health Survey (NFHS) 2015-16 data indicates that an estimated 99.1 per cent of sexual violence cases go unreported
- **Marital Violence:** The average Indian woman is 17 times more likely to face sexual violence from her husband than from others.

**What is Marital Rape?**

- Marital rape, the act of forcing your spouse into having sex without proper consent
- It is an unjust yet not uncommon way to degrade and disempower women.

**What are the recommendation of committees regarding Marital Rape?**

- In 2013, the UN Committee on Elimination of Discrimination Against Women (CEDAW) recommended that the Indian government should criminalize marital rape.

- The JS Verma committee set up in the aftermath of nationwide protests over the December 16, 2012 gang rape case had also recommended the same.

#### How does Indian Law regime deal with Marital Rape?

- One of the most horrifying and repressive issues with the Indian legal regime is that marital rape is perfectly legal
- **Section 375** of Indian Penal Code (IPC) defines the offence of rape with the help of six descriptions. One of the exceptions to this offence is “Sexual intercourse or sexual acts by a man with his own wife, the wife not being under 15 years of age, is not rape”.

#### What is the Criticism of India’s Legal regime on Marital Rape?

- **Against International Norm:** Today, it has been impeached in more than 100 countries but, unfortunately, India is one of the only 36 countries where marital rape is still not criminalized
- **Concerns of Implied Consent:** The concept of marital rape in India is the epitome of what we call an “implied consent”. Marriage between a man and a woman here implies that both have consented to sexual intercourse and it cannot be otherwise. The Indian Penal Code, 1860, also communicates the same.
- **Against Right to Life and Right to Equality:** The Supreme Court has included sanctity of women, and freedom to make choices related to sexual activity under the ambit of Article 21. Therefore, this exception clause is violative of Article 14 and Article 21 of the Indian Constitution.
- **Patriarchal outlook of Laws:** Rape laws in our country continue with the patriarchal outlook of considering women to be the property of men post marriage, with no autonomy or agency over their bodies. They deny married women equal protection of the laws guaranteed by the Indian constitution.
- **Differentiates Married & Unmarried women:** A married woman has the same right to control her own body as does an unmarried woman. Unfortunately, this principle is not upheld in Indian rape laws.
- **Marital Rape is more dangerous to Women’s life:** Rape is rape, irrespective of the identity of the perpetrator, and age of the survivor. A woman who is raped by a stranger, lives with a memory of a horrible attack; a woman who is raped by her husband lives with her rapist.
- **Colonial Hangover:** Our penal laws, handed down from the British, have by and large remained untouched even after 73 years of independence. But English laws have been amended and marital rape was criminalised way back in 1991. No Indian government has, however, so far shown an active interest in remedying this problem.
- **Violative of UN Convention:** Section 375 (Exception) of IPC is inconsistent with and violative of these principles of United Nations Declaration on the Elimination of Violence against Women
- **Does not pass the test of “intelligible differentia”:** Essentially, Section 375 (Exception) creates a classification not only between consent given by a married and unmarried woman, but also between married females below 15 years of age and over 15 years old. Such a classification does not pass the test of “intelligible differentia

#### Do You Know?

- In 2017, a PIL was filed by Independent Thought, an NGO, challenging this unintelligible classification and claiming that married women over 15 years of age should also be afforded this protection.
- The Supreme Court concurred with these averments to some extent and extended the [age limit in Section 375](#) from 15 years to 18 years.


- The above judgment was only a small step towards striking down the legalisation of marital rape.


### Conclusion

- It is high time that the legislature should take cognisance of marital rape and bring it within the purview of rape laws by eliminating Section 375 (Exception) of IPC.
- By removing this law, women will be safer from abusive spouses, can receive the help needed to recover from marital rape and can save themselves from domestic violence and sexual abuse.

### Connecting the dots

- Sex Abuse and Safeguarding our Children: Click [here](#)





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## HEALTH ISSUE

### World AIDS Day 2020

**Part of:** GS Prelims and GS-II – Health

**In news**

- The World AIDS Day is observed on 1st December every year all over the world.

**Key takeaways**

- It was founded in 1988 by the World Health Organization (WHO).
- Theme for 2020: “Global solidarity, resilient HIV services.”
- In 2019, 6,90,000 people died from HIV-related causes and 1.7 million people were newly infected, with nearly 62% of these new infections occurring among key populations and their partners.

**Important value addition**

- AIDS is a pandemic disease caused by the infection of Human Immunodeficiency Virus (HIV), which damages the human immune system.
- It is a chronic, potentially life-threatening condition.
- By damaging immune system, HIV interferes with the body's ability to fight infection and disease.
- The virus can be transmitted through contact with infected blood, semen or vaginal fluids.
- AIDS symptoms include weight loss, fever or night sweats, fatigue and recurrent infections.
- No cure exists for AIDS.
- Strict adherence to antiretroviral regimens (ARVs) can slow the disease's progress and prevent secondary infections and complications.

### World Malaria Report, 2020 released

**Part of:** GS Prelims and GS-II – Health

**In news**

- The World Malaria Report (WMR), 2020 was recently released by WHO.
- It indicates that India has made considerable progress in reducing its malaria burden.

**Key takeaways**

- India is the only high endemic country which has reported a decline of 17.6% in 2019 as compared to 2018.
- The Annual Parasitic Incidence (API) reduced by 27.6% in 2018 compared to 2017 and by 18.4% in 2019 as compared to 2018.
- India has sustained API less than one since year 2012.
- India has also contributed to the largest drop in cases region-wide, from approximately 20 million to about 6 million.

- The percentage drop in the malaria cases was 71.8% and deaths was 73.9% between 2000 to 2019.
- India achieved a reduction of 83.34% in malaria morbidity and 92% in malaria mortality between the year 2000 and 2019, thereby achieving Goal 6 of the Millennium Development Goals (50-75% decrease in case incidence between 2000 and 2019).
- States of Odisha, Chhattisgarh, Jharkhand, Meghalaya and Madhya Pradesh disproportionately accounted for nearly 45.47% of malaria cases and 70.54% of falciparum Malaria cases in 2019.
- 64% of malaria deaths were also reported from these states.

#### Do you know?

- WHO has initiated the High Burden to High Impact (HBHI) initiative in 11 high malaria burden countries, including India.
- Implementation of HBHI initiative has been started in four states i.e. West Bengal, Jharkhand, Chhattisgarh and Madhya Pradesh in July, 2019.
- National Framework for Malaria Elimination (NFME) was launched in India in 2016 by the Ministry of Health and Family Welfare.
- National Strategic Plan for Malaria Elimination (2017-22) was launched by the Health Ministry in July, 2017 which laid down strategies for the next five years.

### Antimicrobial Resistance

**Context:** While the COVID-19 pandemic continues to wreak havoc on our daily lives, a silent pandemic (AMR) has been brewing in the background for decades

In India, the largest consumer of antibiotics in the world, this is a serious problem.

#### AMR Data

- Antimicrobial resistance (AMR) is growing at an alarming rate. Globally, about 35% of common human infections have become resistant to available medicines.
- About 700,000 people die every year because available antimicrobial drugs — antibiotics, antivirals, antiparasitic and antifungals — have become less effective at combating pathogens.
- Resistance to second- and third-line antibiotics — the last lines of defence against some common diseases — are projected to almost double between 2005 and 2030.
- According to a study published in The Lancet, an estimated 58,000 new-born children die annually from sepsis in India alone because antibiotics can no longer treat certain bacterial infections.

#### Reasons

- **Natural process catalyzed:** Microorganisms develop resistance to antimicrobial agents as a natural defence mechanism. But, human activity has significantly accelerated the process.
- **Misuse of Antibodies:** The misuse and overuse of antimicrobials for humans, livestock and agriculture is probably the biggest reason for this, but other factors also contribute.
- **Waste releases:** Once consumed, up to 80% of antibiotic drugs are excreted un-metabolised, along with resistant bacteria. Also, they are release in effluents from households and health and pharmaceutical facilities, and agricultural run-off, is propagating resistant microorganisms.
- **Ineffective Wastewater treatment:** An analysis of single wastewater discharge from a treatment facility in India catering to drug manufacturers found concentrations of antibiotics

high enough to treat over 40,000 people daily. Thus, Wastewater treatment facilities are unable to remove all antibiotics and resistant bacteria.

- **Pollution:** Research points to the role of environment and pollution in AMR.
- **Other reasons:** Water, then, may be a major mode for the spread of AMR, especially in places with inadequate water supply, sanitation and hygiene. Wildlife that comes into contact with discharge containing antimicrobials can also become colonised with drug-resistant organisms.

### Interventions

- UN agencies are working together to develop the One Health AMR Global Action Plan (GAP) that addresses the issue in human, animal, and plant health and food and environment sectors.
- Centre and State governments in India can strengthen the environmental dimensions of their plans to tackle antimicrobial resistance.
- Promote measures that address known hotspots such as hospitals and manufacturing and waste treatment facilities.
- Ministry of Health and Family Welfare and MoEF&CC constituted the inter-ministerial Steering Committee on Environment and Health, with representation from WHO and UNEP.
- Ministry of Environment, Forest and Climate Change (MoEF&CC) issued draft standards which set limits for residues of 121 antibiotics in treated effluents from drug production units.

### Conclusion

Antimicrobial resistance is growing exponentially and needs to be tackled before it is late

## [Influenza makes people more susceptible to bacterial infections: Sweden's Karolinska Institute](#)

**Part of:** GS Prelims and GS-II – Health

### In news

- Recently, researchers at Sweden's Karolinska Institute have come out with findings on superinfections.
- They have highlighted that influenza makes people more susceptible to bacterial infections.

### Key takeaways

- When an individual is infected by influenza different nutrients and antioxidants, such as vitamin C, leak from the blood.
- The absence of nutrients and antioxidants creates a favourable environment for bacteria in the lungs.
- The bacteria adapt to the inflammatory environment by increasing the production of an enzyme called High temperature requirement A (HtrA).
- The presence of HtrA weakens the immune system and promotes bacterial growth in the influenza-infected airways.
- The ability of pneumococcus to grow seems to depend on the nutrient-rich environment with its higher levels of antioxidants that occurs during a viral infection, as well as on the bacteria's ability to adapt to the environment and protect itself from being eradicated by the immune system.
- The results could be used to find new therapies for double infections between the influenza virus and pneumococcal bacteria.

- The information can contribute to the research on Covid-19.

### Important value addition

#### Superinfections

- These are infection occurring after or on top of an earlier infection, especially following treatment with broad-spectrum antibiotics.
- It is an overgrowth of an opportunistic pathogen from the bacterial or yeast imbalance of systemic antibiotics.
- For example, influenza is caused by a virus, but the most common cause of death in influenza patients is secondary pneumonia, which is caused by bacteria.

#### Influenza

- It is a viral infection that attacks the respiratory system i.e. nose, throat and lungs.
- It is commonly called the flu.
- **Symptoms:** Fever, chills, muscle aches, cough, congestion, runny nose, headaches and fatigue.
- Flu is primarily treated with rest and fluid intake to allow the body to fight the infection
- Young children, older adults, pregnant women and people with chronic disease or weak immune systems are at high risk.

#### Pneumonia

- It is an infection that inflames the air sacs in one or both lungs.
- The air sacs may fill with fluid or pus.
- **Cause:** Variety of organisms, including bacteria, viruses and fungi.
- **Symptoms:** Cough with phlegm or pus, fever, chills and difficulty breathing.
- The infection can be life-threatening to anyone, but particularly to infants, children and people over 65.

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## [UN Decides Cannabis Not A Dangerous Narcotic](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- The UN Commission on Narcotic Drugs (CND) recently reclassified out of the most dangerous category of drugs.

#### Key takeaways

- The CND has decided to remove cannabis from Schedule IV of the 1961 Single Convention on Narcotic Drugs.
- Earlier, cannabis was listed alongside deadly, addictive opioids, including heroin.
- Now, it is removed from the strictest control schedules that even discouraged its use for medical purposes.
- The removal has opened the door to recognizing the medicinal and therapeutic potential of the commonly-used but still largely illegal recreational drug.

- The decision could also drive additional scientific research into the plant's long-heralded medicinal properties and act as catalyst for countries to legalize the drug for medicinal use, and reconsider laws on its recreational use.
- Twenty-seven of the CND's 53 Member States — including India, the USA and most European nations — voted "Yes" on the motion to delete cannabis and cannabis resin from Schedule IV of the 1961 Convention.
- Under India's Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985, the production, manufacture, possession, sale, purchase, transport, and use of cannabis is a punishable offence.

**For further read, click the below links:**

- [Fighting Drug Menace](#)
- What is India's Narcotic Drugs and Psychotropic Substances (NDPS) Act, 1985? [Click here](#)

## The 2<sup>nd</sup> Cancer Genome Atlas (TCGA) inaugurated

**Part of:** GS Prelims and GS-II – Health

**In news**

- The Ministry of Science & Technology has inaugurated the 2nd Cancer Genome Atlas (TCGA) 2020 Conference.

**Key takeaways**

- TCGA is a landmark project started in 2005 by the US-based National Cancer Institute (NCI) and the National Human Genome Research Institute (NHGRI).
- The idea was to make a catalogue of the genetic mutations that cause cancer.
- Tumour samples and blood samples were collected from patients.
- They were processed using gene sequencing and bioinformatics.
- The TCGA has generated over 2.5 petabytes of data for over 11,000 patients.
- The data has been used to develop new approaches to diagnose, treat and prevent cancer.
- Indian Cancer Genome Atlas (ICGA) has also been initiated in India by a consortium of key stakeholders led by CSIR in which several government agencies, cancer hospitals, academic institutions and private sector partners.
- **Aim:** To improve clinical outcomes in cancer and other chronic diseases.

**Do you know?**

- According to the World Cancer Report by the WHO, one in 10 Indians develops cancer during their lifetime and one in 15 dies of the disease.

## [IRDAI standardises health policies for Robotic and bariatric surgeries](#)

**Part of:** GS Prelims and GS-II – Policies and interventions; Health & GS-III - Trade

**In news**

- The Insurance Regulatory and Development Authority of India (IRDAI) has standardised all health policies to include robotic and bariatric surgeries as well.

### Key takeaways

- Robotic surgery holds significant promise in the field of healthcare.
- The introduction of such surgeries has made the performance of complicated procedures much easier.
- They allow doctors to perform different types of complex procedures with more precision, flexibility, and control.
- The benefits of such procedures in India come at a lower cost than in developed nations, making it easily accessible to a larger section of the population.
- Robotic surgeries reduce the trauma caused to the patient by allowing surgery to be performed through small ports or 'keyholes' rather than via large incisions.
- The instruments can access hard-to-reach areas of a patient's body more easily through smaller incisions compared with traditional open and laparoscopic surgeries.
- This helps in shorter recovery times, with fewer complications and a shorter hospital stay.
- They are minimally invasive, painless and have a bigger cosmetic advantage.
- Lower cost of the surgery would mean lower premium to be paid for such cover, too.

### Do you know?

- Bariatric surgery is an operation that helps lose weight by making changes to the digestive system.
- **Insurance Regulatory Development Authority of India (IRDAI)** is a regulatory body created with the aim of protecting the interests of the insurance customers.
- It regulates and sees to the development of the insurance industry while monitoring insurance-related activities.

## [HGCO19: India's first indigenous mRNA vaccine candidate receives approval](#)

**Part of:** GS Prelims and GS-II –Health & GS-III – Sci & Tech

### In news

- India's first indigenous mRNA vaccine candidate, HGCO19, has received approval from Indian Drug regulators to initiate Phase one and two human clinical trials.

### Key takeaways

- HGCO19 has been developed by Gennova, Pune and supported with seed grant under the Ind-CEPI mission of the Department of Biotechnology.
- The mRNA vaccines do not use the conventional model to produce immune response.
- Instead, they carry the molecular instructions to make the protein in the body through a synthetic RNA of the virus.
- mRNA-based vaccines are scientifically the ideal choice to address a pandemic because of their rapid developmental timeline.
- The mRNA vaccine is considered safe as is non-infectious, non-integrating in nature, and degraded by standard cellular mechanisms.

## 5th National Family Health Survey (NFHS) released

**Part of:** GS Prelims and GS-II – Health

### **In news**

- Ministry of Health released the 5th National Family Health Survey (NFHS).
- The survey contains detailed information on population, health and nutrition for India and its states and union territories.

### **Key takeaways**

- The results of 17 States and 5 UTs have been released Phase-I.
- Phase II covering the remaining 12 States and 2 UTs had their fieldwork suspended due to Covid-19, which has been resumed from November and is expected to be completed by May 2021.
- Substantial improvement in maternal and child health indicators over NFHS-4 (2015-16) was recorded in the present survey.
- The fertility rate has further declined.
- Contraceptive use has increased and unmet need has been reduced in most phase I states.
- The survey found considerable improvement in vaccination coverage among children age 12-23 months across all states and UTs.
- Malnutrition indicators have worsened.
- Rise in stunting was reported in 11 out of 18 states. Wasting increase was found in 14 states and of those with anaemia in 17 states.

## Plasmodium Ovale: Uncommon type of Malaria

**Part of:** GS Prelims and GS-II – Health & GS-III – Sci & Tech

### **In news**

- A not very common type of malaria, Plasmodium ovale, has been identified in a soldier in Kerala.
- The soldier is believed to have contracted it during his posting in Sudan, from where he returned nearly a year ago, and where Plasmodium ovale is endemic.

### **Important value addition**

- Malaria is caused by the bite of the female Anopheles mosquito, if the mosquito itself is infected with a malarial parasite.
- There are five kinds of malarial parasites — Plasmodium falciparum, Plasmodium vivax (the commonest ones), Plasmodium malariae, Plasmodium ovale and Plasmodium knowlesi.

### **Plasmodium ovale**

- P ovale rarely causes severe illness and there is no need for panic because of the case detected in Kerala.
- P ovale is very similar to P vivax, which is not a killer form. It is no more dangerous than getting a viral infection.
- **Symptoms:** Fever for 48 hours, headache and nausea

- It is termed ovale as about 20% of the parasitised cells are oval in shape.
- P ovale malaria is endemic to tropical Western Africa.
- It is relatively unusual outside of Africa.

### Miscellaneous

#### Eluru illness

- Over 550 people in Eluru town of Andhra Pradesh's West Godavari district have been suffering from convulsions, seizures, dizziness and nausea.
- The All India Institute of Medical Sciences (AIIMS) has found traces of lead and nickel in blood samples of some victims.
- The primary suspicion is on water contamination by heavy metals.
- Scientists suspect that pesticide or insecticide has seeped into drinking water sources.
- Eluru receives water through canals from both Godavari and Krishna rivers.
- The canals pass through agricultural fields where runoff laced with pesticides mixes with water in the canals.
- Many aspects of the mystery illness have baffled scientists.
- People who only use packaged drinking water have also fallen sick.

### Lancet Citizens' Commission for Universal Health Coverage

**Part of:** GS Prelims and GS-II – Health

#### **In news**

- Recently, the Lancet Citizens' Commission on Reimagining India's Health System has been launched online which is a step towards achieving Universal Health Coverage (UHC) in India

#### **Key takeaways**

- It is a first-of-its-kind participatory, countrywide initiative, in collaboration with world's leading health journal The Lancet and the Lakshmi Mittal and Family South Asia Institute, Harvard University.
- **Objective:** To enable participatory public engagement to develop a citizens' blueprint for the implementation of UHC.
- **Mission:** (1) To lay out the path to achieving UHC in India in the coming decade; (2) To formulate a roadmap for realising a resilient health system that offers accessible, inclusive, and affordable quality health care to all citizens in India; (3) To gather insights from across India through grassroots surveys, public consultations and online discussions; (4) To build partnerships and work closely with academic institutions, civil society and other stakeholders to catalyse dialogue and knowledge sharing across fields.
- It will be on the architecture of India's health system.
- **Principles:** (1) UHC covers all health concerns; (2) Prevention and long-term care are key; (3) The concern is financial protection for all health costs; (4) Aspiring for a health system that can be accessed by all who enjoy the same quality.

### Vision 2035: Public Health Surveillance In India

**Part of:** GS Prelims and GS-III – Environment

#### **In news**



- NITI Aayog recently released a white paper: Vision 2035: Public Health Surveillance in India.

#### Key takeaways

- **Vision:** is to make India's public health surveillance system more responsive and predictive to enhance preparedness for action at all levels.
- The white paper lays out India's vision 2035 for public health surveillance through the integration of the three-tiered public health system into Ayushman Bharat.
- The building blocks for this vision are an interdependent governance between the Centre and states, a new data-sharing mechanism which involves the use of new analytics, health informatics, and data science including innovative ways of disseminating 'information for action'.
- Citizen-friendly public health surveillance system will ensure individual privacy and confidentiality, enabled with a client feedback mechanism.
- Improved data-sharing mechanism between Centre and states for better disease detection, prevention, and control.
- India aims to provide regional and global leadership in managing events that constitute a public health emergency of international concern.

### [Doctors witness increased cases of Covid-19 triggered Mucormycosis](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- Recently, doctors have witnessed increased cases of Covid-19 triggered Mucormycosis.
- The reduced immunity of Covid-19 patients makes them more susceptible to this fungal infection.

#### Important value addition

- Mucormycosis is also called Black Fungus or Zygomycosis.
- It is a serious but rare fungal infection caused by a group of molds called mucormycetes.
- It occurs through inhalation, inoculation, or ingestion of spores from the environment.
- Mucormycosis does not spread between people or between people and animals.
- It usually occurs in people who have health problems or take medicines that lower the body's ability to fight germs and sickness.
- **Symptoms:** One-sided facial swelling and numbness, headache, nasal or sinus congestion, black lesions on nasal bridge or upper inside of the mouth, fever, abdominal pain, nausea and gastrointestinal bleeding.
- It needs to be treated with prescription antifungal medicine.
- Often, mucormycosis requires surgery to cut away the infected tissue.
- There is no vaccine to prevent it.
- Early detection can prevent loss of eyesight, nose or jaw through clinical intervention.

### [Recognition Scheme for Hygiene Rating Audit Agencies](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- Quality Council of India (QCI) at the behest of the Food Safety and Standards Authority of India (FSSAI) has come out with a Scheme for approval of Hygiene Rating Audit Agencies to scale up Hygiene Rating by increasing the number of recognised Hygiene Rating Audit Agencies in the country.

#### Key takeaways

- FSSAI's initiative of 'Food Hygiene Rating Scheme' is a certification system for food businesses supplying food directly to consumers, either on or off premise.
- The food establishments are rated based on food hygiene and safety conditions observed at the time of audit.
- The hygiene rating will be in the form of smileys (1 up to 5) and the certificate should be displayed prominently in the consumer facing area.
- **Aim:** To allow consumers to make informed choices pertaining to the food outlets where they eat by encouraging food businesses to improve their hygiene and safety standards.
- The recognised Hygiene Rating Audit Agency will verify the compliance with food hygiene and safety procedures laid by FSSAI.

#### Important value additions

##### Quality Council of India (QCI)

- **Set up:** 1997
- **Established jointly by:** The Government of India and the Indian Industry represented by the three premier industry associations i.e. Associated Chambers of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry (CII) and Federation of Indian Chambers of Commerce and Industry (FICCI)
- **Ministry:** The Department of Industrial Policy & Promotion, Ministry of Commerce & Industry.
- **Objective:** To establish and operate national accreditation structure and promote quality through National Quality Campaign.

#### [GalSafe Pigs approved by FDA](#)

**Part of:** GS Prelims and GS-II – Health & GS-III - Biotechnology

##### In news

- The US Food and Drug Administration (FDA) recently approved a first-of-its-kind intentional genomic alteration (IGA) in a line of domestic pigs referred to as GalSafe pigs.

#### Key takeaways

- Genetically modified (GM) pigs have been approved for food and medical use in the USA.
- The pigs are only the second GM animal to be approved for food after GM salmon in 2015.
- The GM pigs have been engineered to eliminate alpha-gal, a sugar found in pigs that can cause allergic reactions.
- It was the first time a GM animal is approved for human food and medical use.

#### Important value additions

### Intentional genomic alteration

- Intentional genomic alteration in animals means making specific changes to the genome of the organism using modern molecular technologies that are popularly referred to as “genome editing” or “genetic engineering”.
- However, there are other technologies that can be used to make IGAs in animals.
- Such changes in the DNA sequence of an animal may be carried out for research purposes, to produce healthier meat for human consumption and to study disease resistance in animals among other reasons.

### [B.1.1.7 Lineage: New variant of SARS-CoV-2](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- Recently, India suspended all flights from and to the UK until December 31, amid concerns about a new variant of SARS-CoV-2 that is spreading & growing rapidly there.

#### Key takeaways

- Last week, the new SARS-CoV-2 variant was revealed to be the reason behind the rapid surge in Covid-19 cases in South and East England.
- It is being referred to as VUI (Variant Under Investigation) 202012/01, or the B.1.1.7 lineage.
- The variant is the result of multiple mutations in the spike protein of the novel coronavirus SARS-CoV-2, as well as mutations in other genomic regions of the RNA virus.
- Preliminary analysis suggests that it is more transmissible than previously circulating variants.

However, it is not deadlier.

### [Reading NFHS data](#)

**Context:** The Ministry of Health and Family Welfare (MoHFW) recently released the results from the first phase of the National Family Health Survey (NFHS).

#### What is National Health Family Survey (NFHS)?

- NFHS is a large-scale nationwide survey of representative households. The data is collected over multiple rounds.
- **Implementation Agencies:** The MoHFW has designated International Institute for Population Sciences in Mumbai as the nodal agency and the survey is a collaborative effort of IIPS; ORC Macro, Maryland (US); and the East-West Center, Hawaii (US).
- **Funding:** The survey is funded by the United States Agency for International Development (USAID) with supplementary support from UNICEF.
- **Previous Surveys:** The first four NFHS were conducted in 1992-93, 1998-99, 2005-06 and 2015-16, respectively.

#### What data does it collect?

- The initial factsheet for NFHS-5 provides state-wise data on 131 parameters.
- These parameters include questions such as how many households get drinking water, electricity and improved sanitation; what is sex ratio at birth, what are infant and child mortality metrics, what is the status of maternal and child health, how many have high blood sugar or high blood pressure etc.

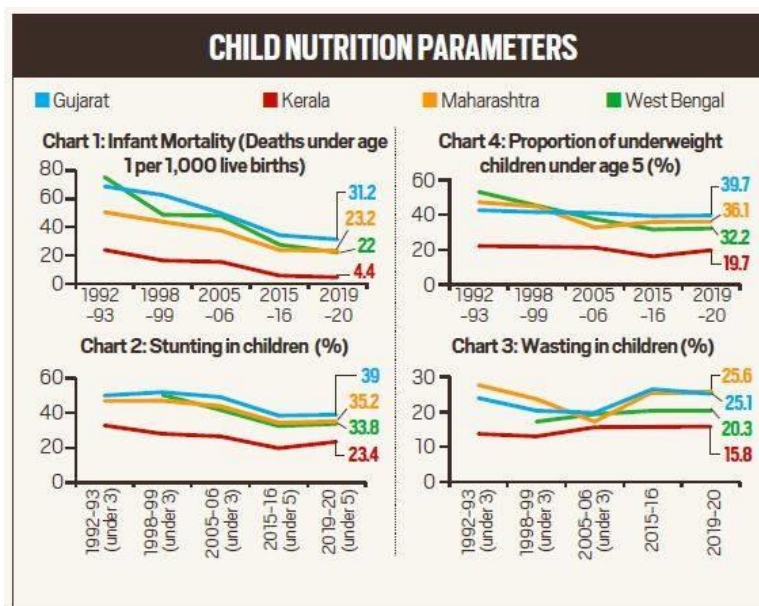
- Each round of NFHS has also expanded the scope of inquiry.
- In the fifth iteration, for instance, there are new questions on preschool education, disability, access to a toilet facility, death registration, bathing practices during menstruation, and methods and reasons for abortion.

### Why are NFHS results important?

- **Evidence Based Policy making:** The NFHS database is possibly the most important one because it not only feeds into the research needs and informs advocacy but also is central to both central and state-level policymaking.
- **International Comparison:** NFHS survey results also provide internationally comparable results. That's because the questions and the methodology is internationally valid. Thus, it places the results of say child malnutrition trends in Bihar in the global context.

### About NHFS-5

- The first phase of NHFS — for which data was collected in the second half of 2019 — covered 17 states and five Union Territories.
- The second phase of the survey was disrupted by the Covid-19 pandemic; its results are expected to come out in May 2021. The second phase will cover some of the biggest states such as Uttar Pradesh, Madhya Pradesh, Punjab and Jharkhand.
- The most important takeaway of study of first phase is that between 2015 and 2019, several Indian states have suffered a **reversal on several child malnutrition parameters**



### What has NFHS-5 found?

- **Worsening Child Malnutrition:** The most troubling finding is that on child malnutrition parameters — such as infant and child (under 5 years of age) mortality, child stunting (low height for one's age), child wasting (low weight for one's height) and proportion of underweight children — several states have either been stagnant or worsened (refer above figure)
- In other words, children born between 2014 and 2019 (that is, 0 to 5 years of age) are more malnourished than the previous generation.

- **Indicates Chronic Malnutrition:** The reversal in the proportion of children who are stunted is the most worrisome because unlike wasting and being underweight (which can be due to short term reasons and represent acute malnutrition), stunting represents chronic malnutrition. Reversals in stunting are unheard of in growing economies with stable democracies.
- **Second Phase may throw worse results due to impact of Pandemic:** Another cause of concern is the fact that the first phase data is pre-pandemic and it is quite likely that the second phase — which will also incorporate Covid's impact — may throw up ever poorer results.

#### What is the significance of these results?

- **Malnutrition leads to poor human resources:** Worsening child malnutrition, as well as rising levels of anaemia in women (especially pregnant ones), points to Indian children born in the past 5 years likely suffering from both cognitive and physical deficiencies.
- **Initiatives on Sanitation not yielded results:** Between NFHS-3 (2005-06) and NFHS-4 (2015-16), India registered its most significant reduction in child malnutrition, thanks to a flurry of interventions such as nutrition missions, ICDS, MGNREGA and expansion of PDS among others. The latest results show that health-wise, India has taken a turn for the worse since 2015 despite improvements in water availability and sanitation methods.
- **Needs further analysis:** Experts say that only when the full set of raw unit-level data is available can a proper analysis of why India suffered such reversals over the past five years be done.

#### Conclusion

Health outcomes such as child malnutrition data are the result of a complex set of reasons — ranging from the state of a family's income generation to environmental factors to government interventions.

### [Preventive measures started against Shigellosis in Kerala](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- Health officials in Kozhikode district of Kerala began preventive measures after 6 cases of shigella infection and nearly 24 suspected cases were detected.



#### Important value additions

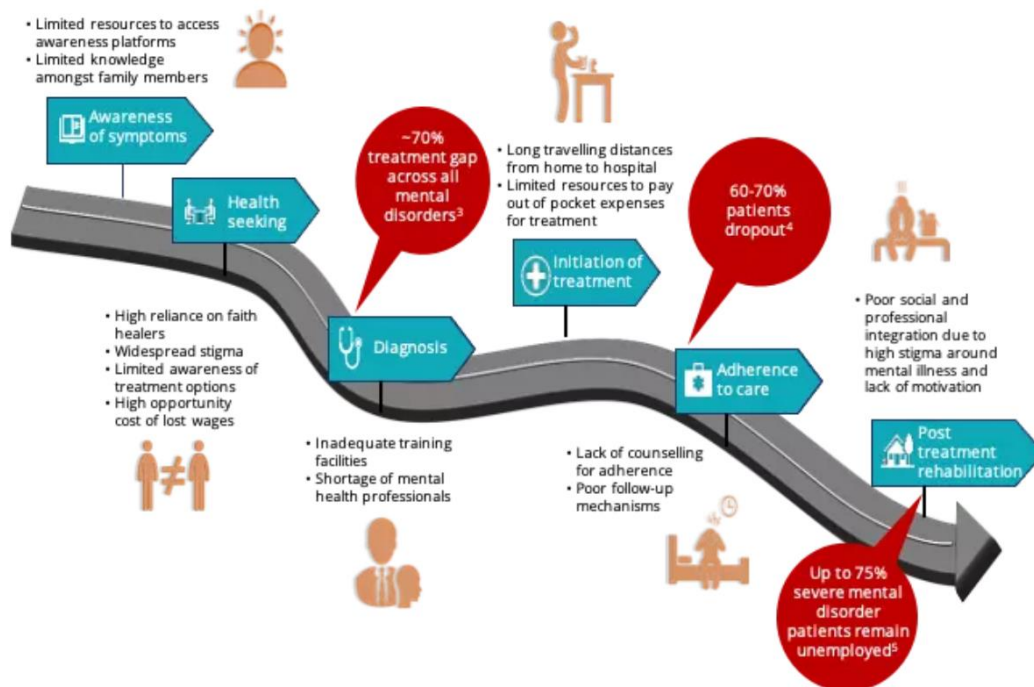
- Shigellosis, or shigella infection, is a contagious intestinal infection caused by a genus of bacteria known as shigella.
- The bacteria is one of the prime pathogens responsible for causing diarrhoea, fluctuating between moderate and severe symptoms, especially in children in African and South Asian regions.

- The bacteria, after entering the body through ingestion, attacks the epithelial lining of the colon resulting in inflammation of the cells and subsequently the destruction of the cells in severe cases.
- **Symptoms:** Diarrhoea (often bloody and painful), stomach pain, fever, nausea and vomiting.
- **Transmission:** It spreads person-to-person when the bacteria is swallowed accidentally.
- Spread through contaminated food and water is the most common form of transmission across the world.
- **Prevention:** Wash hands with soap especially after dealing with a child's diaper and before preparing/eating food.

## Mental Healthcare

### Issues

- Around 15% of India's population suffer from poor mental health – and the number of people afflicted has been increasing steadily, from 125 million in 1990 to 197 million in 2017.
- Suicide ranks as the second-biggest cause of death among Indian adults of working age.
- India spent less than 1% of its total healthcare budget on mental health in 2017.
- Underutilization of funds, low prioritization of mental health by individual Indian states, and low coverage of health insurance for mental, neurological and substance use (MNS) disorders.
- The COVID-19 pandemic has only underscored the need for additional financing of mental health services.



Challenges and barriers along the mental health patient journey in India Image: Authors

### Way Ahead

- Effective and innovative mental health interventions can be scaled up quickly in order to improve mental healthcare delivery in India.
- Embedding the awareness and detection of mental health problems

- Counselling and referral into well-defined care pathways through frontline workers at the community level.
- Conducting behavioural change communication campaigns to destigmatize mental health issues and to present options for care for both patients and caregivers.
- Enabling anonymous methods of seeking help, such as helplines or apps.
- Improving accessibility by leveraging digital tools and technologies.
- Strengthening mental health service delivery at the primary and secondary care levels.
- Using mobile-based (digital) decision support systems to improve patient management.
- Improving adherence to care through psycho-social education
- Setting up follow-up mechanisms or changes of treatment regimen with increased adherence.
- India needs impact financing for mental healthcare to complement public funding and for mobilizing resources from private sector and philanthropy, to bring innovative mental healthcare delivery models to scale.

## [WHO's 2019 Global Health Estimates](#)

**Part of:** GS Prelims and GS-II – Health

**In news**

- The WHO's 2019 Global Health Estimates was released recently.

**Key takeaways**

- According to the report, non-communicable diseases now make up 7 of the world's top 10 causes of death, an increase from 4 of the 10 leading causes in 2000.
- The new data cover the period from 2000 to 2019.
- **Heart disease:** (1) It has remained the leading cause of death at the global level for the last 20 years; (2) It now represents 16% of total deaths from all causes; (3) The number of deaths from heart disease increased by more than two million since 2000 to nearly 9 million in 2019.
- **Diabetes and dementia** are also among the world's top 10 causes of death.
- **HIV/AIDS** dropped from the 8th leading cause of death in 2000 to the 19th in 2019.
- **Tuberculosis** is also no longer in the global top 10, falling from 7th place in 2000 to 13th in 2019, with a 30% reduction in global deaths.
- In 2019, people were living more than 6 years longer than in 2000, with a global average of more than 73 years in 2019 compared to nearly 67 in 2000.
- There has been a global decline in deaths from communicable diseases, which however, still remain a major challenge in low- and middle-income countries.

**Do you know?**

- In 2019, pneumonia and other lower respiratory infections were the deadliest group of communicable diseases and together ranked as the fourth leading cause of death.

## [PM to launch Ayushman Bharat PM-JAY SEHAT to extend coverage to all residents of J&K](#)

**Part of:** GS Prelims and GS-II – Policies and Interventions; Health

**In news**

- Indian Prime Minister will launch Ayushman Bharat PM-JAY SEHAT to extend health coverage to all the residents of the Union Territory of Jammu & Kashmir.

### Key takeaways

- The scheme will ensure Universal Health Coverage.
- **Focus:** Providing financial risk protection and ensuring quality and affordable essential health services to all individuals and communities.
- The Scheme also provides free of cost insurance cover to all the residents of the UT of J&K.
- It provides financial cover upto Rs 5 lakh per family on a floater basis to all residents of the UT.
- It provides for operational extension of PM-JAY to 15 lakh (approx) additional families.
- The scheme will operate on insurance mode in convergence with PM-JAY.
- The benefits of the scheme will be portable across the country.
- The hospitals empanelled under PM-JAY scheme shall provide services under this scheme as well.

### Do you know?

- Universal Health Coverage (UHC) includes the full spectrum of essential, quality health services, from health promotion to prevention, treatment, rehabilitation, and palliative care.
- It enables everyone to access the services, protecting people from the financial consequences of paying for health services out of their own pockets and reducing the risk that people will be pushed to poverty.
- The Ayushman Bharat program, with its two pillars – Health and Wellness Centres and Pradhan Mantri Jan Arogya Yojna – is envisaged to achieve UHC.

### Important value additions

#### Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY)

- It was launched to provide free access to healthcare for 40% of people in India.
- People using the program access their own primary care services from a family doctor.
- If anyone needs additional care, AB PM-JAY provides free secondary health care for those who need specialist treatment and tertiary health care for those requiring hospitalization.
- The program is centrally sponsored.
- It is jointly funded by both the Central government and the states.

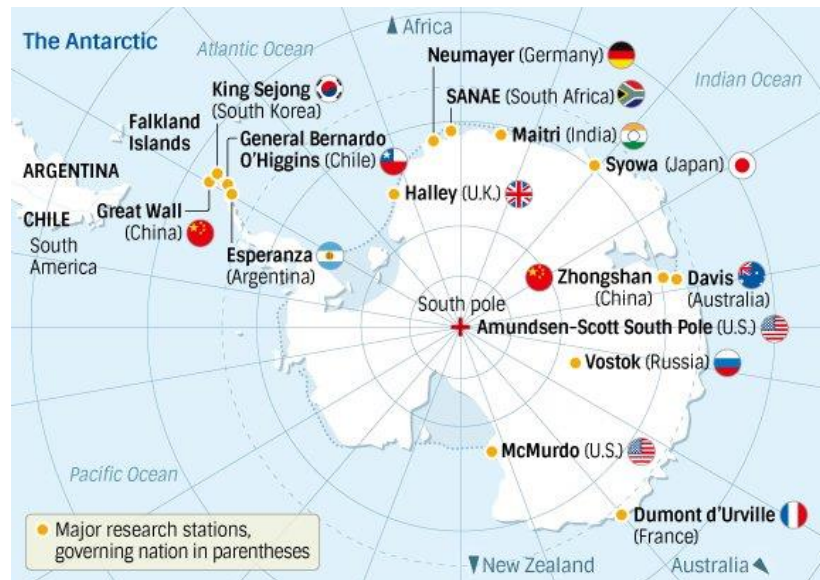
### [Coronavirus In Antarctica](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- At least 36 people at a Chilean research station in Antarctica have been found infected with the novel coronavirus.
- This is the first instance of the virus on the southernmost continent.





### Important value additions

#### Antarctica

- Antarctica is uninhabited except for those manning the nearly 60 permanent stations established by several countries, including India, for carrying out scientific research.
- As of now, the Indian contingent in Antarctica is not worried about the virus spreading.
- The two Indian permanent stations in Antarctica, Maitri and Bharati, are at least 5,000 km away from the Chilean base.
- The two Indian stations are themselves separated by almost 3,000 km.
- The Goa-based National Centre for Polar and Ocean Research (NCPOR) is the nodal agency for India's scientific expeditions in Antarctica and the Arctic.

### Towards an effective vaccination distribution policy

**Context:** India plans to vaccinate 300 million people against COVID-19 over the next 6-7 months.

#### Key Challenges for the government

- **Vaccination large numbers in quick time:** The government plans to give priority to healthcare workers and other front-line workers, followed by everyone who is above 50 years of age. This will mean that roughly 20% of the population will be vaccinated by July or August 2021.
- **Procurement of Vaccines:** Since all the vaccines that are currently in the spotlight require two doses, the government will have to acquire 600 million doses.

#### Steps taken by Government towards Vaccination

- Pune's Serum Institute of India is the world's largest producer of vaccines. There are reports that the **government has already struck a deal** with the Serum Institute to acquire 500 million doses of the AstraZeneca vaccine.
- Emergency authorisation for this vaccine is likely to follow soon.
- There are other vaccine frontrunners including Bharat Biotech's Covaxin and the Russian Sputnik V whose clinical trials in India are being conducted by Reddy's Labs.
- So, provided that there are no last-minute setbacks, the government should have no problems in acquiring the required number of doses.

### What should be the guiding principle of Vaccination drive?

A vaccination drive such as this should have two distinct objectives:

- one, providing protection to those vaccinated,
- Two, to minimise or at least slow down the speed and spread of the viral transmission.

### Who gets Priority?

- The government's strategy of giving priority to **front-line workers and elderly people** is in line with the practice being followed in the U.K. and the U.S., the two major countries that have been the leaders in the COVID-19 vaccination drive.
- The rationale for this is to protect those who are most likely to be infected in the future as well as those who are most vulnerable to the health consequences of the infection.
- Vaccinating **healthcare professionals** satisfy both the above mentioned objectives: these are individuals who have high levels of exposure and they also act as active disease vectors since they interact with large numbers of people.
- However, the **priority given to older people may not actually minimise** the total social and economic cost inflicted by the virus in the long run. The elderly are less mobile, have a lower level of social interaction, and are hence less likely to spread the virus.
- **Alternative Suggestions:** A younger person who interacts with a larger number of people is both more likely to be infected and subsequently infect others. This suggests that densely populated areas — for instance, the Dharavi slum — should receive far more attention than they are likely to get under the current strategy.

### What about involving Private hospital in vaccination drive?

- The government's procurement strategy seems to depend entirely on domestic sources. It also plans to rely entirely on public resources for distribution without involving private hospitals.
- Moreover, the government plans to bear the entire cost of vaccination.
- **Alternative proposition:** Suppose Pfizer or some other multinational pharmaceutical company approaches the government both for authorisation of a vaccine as well as for permission to import and sell (for a profit) to those who can afford it.
- Any approval from the government for private players will **enable the affluent to jump the vaccination queue**. This will inevitably attract the charge that the government is catering to the interests of the richer groups in the population.
- But perhaps a more dispassionate analysis would suggest that allowing the private sector will help provide additional supplies of the vaccine especially when interests of the poor are taken into account by government.
- The government will and should continue to procure all available domestically produced vaccines and supply them through its own distribution channel to people especially the poorer sections of society
- Another potential benefit of allowing private players is that the larger the numbers who get vaccinated, the **lower will be the speed of virus transmission** amongst the non-vaccinated.

### Conclusion

- The government must examine the principle underlying the vaccination scheme and whether private players should be allowed space

### Connecting the dots

- [Vaccine Nationalism](#)

## Virus Mutation: New SARS-CoV-2 strain

**Context:** A year after the novel coronavirus announced itself in China, there was yet another critical update in December 2020 — the emergence of a new strain of the virus, caused by mutations, that seemed to be 70% more transmissible.

Mutations were reported from different parts of the world, including Denmark, Australia, England and South Africa, but the rapid domination of the new strain — lineage B 1.1.7 — in the south of England set off a chain of events, including curbs on travel and Christmas celebrations.

### What is the WHO saying?

- WHO Chief cited a basic fact of virology, **that viruses mutate over time and it is natural** and is to be expected.
- Trying to counter many ill-informed discussions triggered by panic from the usage of the word ‘mutation’, WHO Chief said the U.K. had reported that the transmission was higher, but there was no evidence that it causes a more severe disease.
- He also added that ongoing studies will clear the air on this angle.

### Why do viruses mutate?

- Mutation is part of the life cycle of a virus.
- Once the virus latches on to a host, it begins to replicate and make copies of itself.
- During the process of virus replication, random errors arise, one or two protein molecules change, possibly induced by the immune response mounted within infected people.
- These changes in the genomic structure of the virus can be considered mutations. Not all mutations are significant, but those that affect the virus’s ability to survive or replicate are important.

### How was the new strain identified?

- The English variant was identified in genomic surveillance by COVID-19 Genomics UK (COG-UK), a consortium that analyses genome sequencing data from the U.K.
- The variant is the result of **multiple mutations in the spike protein** (the point of viral entry into the host) of SARS-CoV-2, as well as mutations in other genomic regions of the RNA virus.
- COG-UK reportedly identified one of these mutations as ‘N501Y’, in an area of the spike protein that binds to a key protein in the human cell, the ACE2 receptor. This was an indication that the alterations may, theoretically, result in the virus becoming more infectious.
- As of December 13, according to Public Health England (PHE), there were 1,108 cases of the variant identified “predominantly in the South and East of England”.
- The U.K. government’s website explains that backwards tracing using genetic evidence suggests **this variant emerged in September 2020** and then circulated at very low levels in the population until mid-November.
- The increase in cases linked to the new variant first came to light in late November when PHE was investigating why infection rates in Kent were not falling despite national restrictions.
- They then discovered a cluster linked to this variant that was spreading rapidly into London and Essex.

### Can it be detected through PCR tests?

- The PCR test is used to identify a number of gene targets and will pick up this variant too.

- The U.K.'s Chief Medical Officer has said that current swab tests are able to identify the new variant.

#### Is it known how a vaccine will react?

- Various studies are on to determine the impact of the vaccine on severity of disease or mortality. Also, scientists are working to know about the implication of mutated viruses for the vaccine that has already been developed.
- Scientists advocate for **continuation of vaccination drives** already started in many countries like UK, US and Russia. This is because vaccines will offer protection even from a mutant virus.
- By their very nature, vaccines will make a variety of different antibodies and memory cells that will help fight off the infection
- Vaccines will reduce the number of people who get infected, reduce the number of people spreading the infections, lower the number of hosts, lower the chances of further mutations, and allows to get things under control

#### How can you protect yourself?

Simply by following the original advice on COVID-19 hygiene. Using a face mask, regularly washing hands, and maintaining distance with others when in a public setting will continue to be the best practical ways to prevent the infection.

### [NMPB Consortia For Medicinal Plants](#)

**Part of:** GS Prelims and GS-II – Health

#### In news

- National Medicinal Plants Board (NMPB), Ministry of AYUSH has launched Consortia for Medicinal Plants.

#### Key takeaways

- NMPB envisions the necessity of connectivity between stakeholders in the supply chain and value chain of Medicinal Plants.
- NMPB Consortia will address Quality Planting Material, Research & Development, Cultivation, Trade of medicinal plants/market linkage etc.
- To establish the linkage between the farmers and manufacturers, a 'Seed to Shelf' approach is being introduced, wherein, aspects related to Quality Planting Materials (QPM), Good Agriculture Practices (GAP's), Good Post Harvest Practices (GPHP's) would be addressed.
- In the first phase, NMPB consortia is proposed for medicinal plant species - Ashwagandha (*Withania somnifera*), Pippali (*Piper longum*), Aonla (*Phyllanthus emblica*), Guggulu (*Commiphora wightii*), Satavari (*Asparagus racemosus*).

#### Important value additions

##### The National Medicinal Plants Board (NMPB)

- It has been established by Government of India to coordinate with all matters relating to Medicinal Plants and Support Policies and Programs for growth of trade, export, conservation and cultivation.

- The board is working under Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha & Homeopathy (AYUSH).

### [Pneumosil: First pneumococcal conjugate vaccine](#)

**Part of:** GS Prelims and GS-II – Health & GS-III – Sci & tech

#### **In news**

- Union Health Minister inaugurated India's first pneumococcal conjugate vaccine "Pneumosil".

#### **Key takeaways**

- It has been developed by the Serum Institute of India Private Limited (SIPL) in collaboration with various other partners like the Bill and Melinda Gates Foundation.
- This Indigenous Pneumococcal Conjugate Vaccine will be available in the market under the brand name "Pneumosil" at an affordable price in a single dose (vial and pre-filled syringe) and Multidose (vial) presentations.
- Pneumosil is effective in the prevention of Pneumonia disease.

#### **Important value additions**

##### **Pneumonia**

- It is an Infection that inflames air sacs in one or both lungs, which may fill with fluid.
- With pneumonia, the air sacs may fill with fluid or pus.
- The infection can be life-threatening to anyone, but particularly to infants, children and people over 65.
- **Symptoms:** A cough with phlegm or pus, fever, chills and difficulty breathing.
- Antibiotics can treat many forms of pneumonia.
- Some forms of pneumonia can be prevented by vaccines.
- A common cause of bacterial pneumonia is *Streptococcus pneumoniae* (pneumococcus).

#### **Do you know?**

- A conjugate vaccine is a substance that is composed of a polysaccharide antigen fused (conjugated) to a carrier molecule.
- This enhances the stability and the effectiveness of the vaccine.

### [National Summit On Good, Replicable Practices And Innovations In Public Healthcare Systems In India](#)

**Part of:** GS Prelims and GS-II –Health

#### **In news**

- Union Minister of Health and Family Welfare digitally inaugurated the 7th National Summit on Good, Replicable Practices through a video conference.

**Key takeaways**

- The first one was held in 2013 at Srinagar.
- The summit is held to recognize, showcase and document various best practices and innovations in public healthcare system.
- Union Minister of Health also launched New Health Management Information System (HMIS) along with the Operational Guidelines for TB services at AB-HWCs and the Operational Guidelines 2020 on Active Case Detection and Regular Surveillance for Leprosy.

**Do you know?**

- Indian Prime Minister has set a bold target of a TB-free India by 2025, five years ahead of the SDG targets of 2030.

**Eye Cancer therapy in the form of the first indigenous Ruthenium-106**

**Part of:** GS Prelims and GS-III – Sci & Tech

**In news**

- Bhabha Atomic Research Centre (BARC), Mumbai has developed Eye Cancer therapy in the form of the first indigenous Ruthenium 106 Plaque for treatment of Ocular Tumours.

**Key takeaways**

- The handling of plaque is very convenient for the Surgeon and it has been acknowledged to be at par with the international standards.
- So far the BARC plaques made in India through the Department of Atomic Energy have been used for seven cases for Ocular Cancer.
- Ocular tumours are tumours inside the eye. They are collections of cells that grow and multiply abnormally and form masses.

**Important value additions****Ruthenium-106**

- Ruthenium-106 is a radioactive form of the rare heavy metal ruthenium, which is a "platinum group" metal similar to platinum.
- Ruthenium-106 is produced from the fission or splitting of uranium-235, the type of uranium used in nuclear fission reactors, so it's found in spent nuclear fuel.
- It's used in medicine for cancer radiation therapy, especially for eye and skin tumours.
- It's also used in radioisotope thermoelectric generators that power satellites.

## GOVERNMENT SCHEMES

### Third stimulus package for Mission Covid Suraksha

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- The Indian Government recently announced the third stimulus package of Rs. 900 Crore for the Mission COVID Suraksha - The Indian COVID-19 Vaccine Development Mission.
- This grant will be provided to the Department of Biotechnology (DBT) for Research & Development of Indian COVID-19 vaccines.

#### **Important value addition**

#### **Mission COVID Suraksha - The Indian COVID-19 Vaccine Development Mission**

- The COVID-19 Vaccine development Mission with end-to-end focus from preclinical development through clinical development and manufacturing and regulatory facilitation for deployment would consolidate all available and funded resources towards an accelerated product development.
- **Led by:** Department of Biotechnology
- **Implemented by:** Mission Implementation Unit at Biotechnology Industry Research Assistance Council (BIRAC)
- The existing activities under National Bio Pharma Mission (NBM) and Ind-CEPI Mission will provide complementary strengths to this Mission.

### Migrant workers engaged in Honey Mission

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- Responding to the Prime Minister's call for Aatmanirbhar Bharat, Khadi and Village Industries Commission (KVIC) engaged hundreds of migrant workers in Uttar Pradesh and Bihar with its flagship scheme like Honey Mission.
- The distressed migrant workers who were engaged with KVIC's Honey Mission in Uttar Pradesh in the month of August, have reaped their first honey harvest and are awaiting a bumper yield.

#### **Important value addition**

#### **Honey Mission**

- **Aim of the Honey Mission:** Creating employment for farmers, Adivasis, women and unemployed youth by roping them with beekeeping and increasing India's honey production.
- **Launched by:** KVIC 3 years ago

- Under the Honey Mission, KVIC provides training and 10 bee boxes with live colonies to beneficiaries including farmers, beekeepers and unemployed youth.
- KVIC also runs beekeeping training programmes and courses.

### The Khadi and Village Industries Commission (KVIC)

- It is a statutory body formed in April 1957 (as per an RTI) by the Government of India, under the Act of Parliament, 'Khadi and Village Industries Commission Act of 1956'.
- It is an apex organisation under the Ministry of Micro, Small and Medium Enterprises.
- **Vision** – To plan, promote, facilitate, organise and assist in the establishment and development of khadi and village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- In April 1957, it took over the work of former All India Khadi and Village Industries Board.
- **Head office:** Mumbai
- **Six zonal offices:** Delhi, Bhopal, Bangalore, Kolkata, Mumbai and Guwahati.

### Ayush Export Promotion Council to be set up

**Part of:** GS Prelims and GS-II – Policies and interventions; Health & GS-III - Trade  
**In news**

- Ministry of Commerce and Industry and Ministry of AYUSH have decided to set up an AYUSH Export Promotion Council to boost AYUSH exports.

### Key takeaways

- Both Ministries will work together for establishing an AYUSH Export Promotion Council (AEPC).
- The proposed AEPC can be housed at Ministry of AYUSH.
- Standardisation of HS code for AYUSH will be expedited.
- Ministry of AYUSH will work in collaboration with Bureau of Indian standards to develop international standards for AYUSH products as well as services.
- AYUSH industry will work on ensuring quality and standards of AYUSH products as well as to become price-competitive.
- AYUSH will also figure in the Brand India activities.

### Atmanirbhar Bharat Rojgar Yojana (ABRY) approved

**Part of:** GS Prelims and GS-III –Employment  
**In news**

- The Union Cabinet has given its approval for Atmanirbhar Bharat RojgarYojana (ABRY).
- **Objective:** To boost employment in formal sector and incentivize creation of new employment opportunities during the Covid recovery phase under Atmanirbhar Bharat Package 3.0.

### Key takeaways



- If EPFO-registered establishments take in new employees without EPFO registration or those who lost jobs earlier, the Yojana will benefit these employees.
- Beneficiaries / New Employees under the scheme would be:
  - any new employee joining employment in EPFO registered establishments on monthly wages less than Rs.15,000
  - EPF members drawing monthly wage of less than Rs.15,000 who exited from employment during COVID Pandemic from 1st March to 30th September, 2020 and is employed on or after 1st October, 2020.
- Central Govt. will provide subsidy for two years in respect of new eligible employees engaged on or after 1st October, 2020 at following scale:
  - **Establishments employing up to 1000 employees:** Employee's contributions (12% of Wages) & Employer's contributions (12% of wages) totalling 24% of wages
  - **Establishments employing more than 1000 employees:** Only Employee's EPF contributions (12% of EPF wages)
- The scheme will be effective from October 1, 2020 and operational till 30th June 2021.

#### Related articles:

- Atmanirbhar Bharat 3.0 Part 1: [Click here](#)
- Atmanirbhar Bharat 3.0 Part 2: [Click here](#)

### [Programme of Socio-Economic Profiling of PM SVANidhi launched](#)

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### In news

- A programme of Socio-Economic Profiling of PM SVANidhi beneficiaries and their families was recently launched as an additional component of PM SVANidhi Scheme.
- **Ministry:** Ministry of Housing and Urban Affairs

#### Key takeaways

- Under this, a complete profile of each PM SVANidhi beneficiary and their family members will be prepared.
- Based on the profiled data, benefits of the various eligible Central Schemes would be extended to them for their socio-economic upliftment.
- **Context:** PM SVANidhi scheme should not be seen merely from the perspective of extending loans to street vendors but should also be seen as an instrument for outreach to street vendors and their families for their overall development.
- In the first phase, 125 cities have been selected for the programme.
- The profile will identify potential eligibility of beneficiaries and their family members for select Central Government schemes and facilitate linkages.

#### Important value addition

##### Prime Minister Street Vendors AtmaNirbhar Nidhi (PM SVANidhi) Scheme

- **Implemented by:** Ministry of Housing and Urban Affairs

- **Objective:** To provide affordable working capital loan up to 10 thousand rupees to Street Vendors for facilitating resumption of their livelihoods adversely affected by the COVID-19 pandemic.

### Indigenous Games to be a part of Khelo India Youth Games 2021

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### **In news**

- The Sports Ministry has approved the inclusion of four Indigenous Games to be a part of Khelo India Youth Games 2021, scheduled to take place in Haryana.
- The games include: Gatka, Kalaripayattu, Thang-Ta and Mallakhamba.



#### **Key takeaways**

- Kalaripayattu has its origin from Kerala and has practitioners all over the world.
- Mallakhamba has been well-known across India. Madhya Pradesh and Maharashtra have been the hotspots of this sport.
- Gatka originates from the State of Punjab. This traditional fighting style of the Nihang Sikh Warriors is used both as self-defense and a sport.
- Thang-Ta is a Manipur martial art which has passed into oblivion in the recent decades.

### Post Matric Scholarship To Students Belonging To Scheduled Castes (PMS-SC)

**Part of:** GS Prelims and GS-II – Policies and Interventions

#### **In news**

- The Union Cabinet has recently approved major changes in the Centrally Sponsored Scheme 'Post Matric Scholarship to students belonging to Scheduled Castes (PMS-SC)' to benefit more than 4 Crore SC students in the next 5 years so that they can successfully complete their higher education.

#### **Key takeaways**

- A campaign will be launched to enrol the students, from the poorest households passing the 10th standard, in the higher education courses of their choice in the next 5 years.
- The scheme will be run on an online platform with robust cyber security measures that would assure transparency and timely delivery of the assistance.
- The States will undertake fool-proof verification of the eligibility, caste status, Aadhar identification and bank account details on the online portal.
- Transfer of financial assistance to the students under the scheme shall be on DBT mode, and preferably using the Aadhar Enabled Payment System.
- It shall start from from 2021-22.
- The Central share shall be 60% in the scheme.
- Monitoring mechanism will be further strengthened through conduct of social audits, annual third party evaluation, and half-yearly self-audited reports from each institution.
- The Central Assistance which was around Rs 1100 crore annually during 2017-18 to 2019-20 would be increased more than 5 times to be around Rs 6000 core annually during 2020-21 to 2025-26.

## Water Quality Testing Innovation Challenge launched

**Part of:** GS Prelims and GS-II – Policies and Interventions

**In news**

- The National Jal Jeevan Mission has launched an innovation challenge in partnership with Department of Promotion of Industry and Internal Trade to develop portable devices for water testing.
- The National Jal Jeevan Mission invites applicants to join the Innovation Challenge to develop portable devices for water testing and become a part of this life changing Jan Aandolan.

**Key takeaways**

- **Aim of the innovation challenge:** To ensure that water sources are tested at various locations, at different levels; thereby, helping the policy framers to design programs which address the water contamination issues.
- **Main objective:** To bring an innovative, modular, and cost-effective solution to develop portable devices that can be used at the household level to test the drinking water quality instantly, easily and accurately.
- People receiving piped water supply in their homes do not have any means to test the potability of water coming from their taps.
- This leads to a situation where people are reluctant to consume tap water directly.
- People in urban areas also end up installing household water treatment units incurring additional expenditure.
- The challenge aims to address these issues in an innovative, modular and cost-effective manner.

**Important value additions**

**Jal Jeevan Mission**

- In August, 2019, Government of India launched Jal Jeevan Mission (JJM).

- JJM aims at providing potable water at service level of 55 litre per capita per day (LPCD) to every rural household through Functional Household Tap Connection (FHTC) by 2024.
- The fund sharing pattern between the Centre and states is 90:10 for Himalayan and North-Eastern States, 50:50 for other states, and 100% for Union Territories.
- It is under implementation in partnership with the States to enable every rural home to have tap water connection by 2024.
- **Ministry:** Ministry of Jal Shakti
- **Aim of the mission:** To provide every rural household potable tap water in adequate quantity and of prescribed quality on a regular and long-term basis.
- Water quality testing is one of the priority areas under Jal Jeevan Mission, the flagship programme of Union Government.
- Since announcement of the Jal Jeevan Mission, till 23rd December, 2020, so far 2.90 Crore households have been provided tap water connections, thus increasing the tap water supply from 3.23 Crore (17%) in August, 2019 to 6.13 Crore (32%) rural households of the country.

#### Do you know?

- The Uniform Drinking Water Quality Protocol, 2019 has specified some important parameters to be monitored for assuring portability of drinking water as per BIS IS 10500:2012 and subsequent amendments.



#### Related articles:

- Jal Jeevan Mission: [Click here](#)
- Margadarshika for Gram Panchayats and Paani Samitis: [Click here](#)

### [Indian Institute Of Skills, Mumbai inaugurated](#)

**Part of:** GS Prelims and GS-II – Education & GS-III – Skill generation  
**In news**

- The first batch of Indian Institute of Skills in Mumbai was recently inaugurated
- **Ministry:** Ministry for Skill Development and Entrepreneurship

**Key takeaways**

- The institute is a joint initiative between Ministry of Skill Development & Entrepreneurship (MSDE), Government of India and Tata Indian Institute of Skills.
- The first batch at TATA-Indian Institute of Skills will commence training with two courses in Factory Automation, envisaged to be the foundation for future courses and Smart Manufacturing (Industry 4.0) technology and applications.

**Financial grants distributed to Namghars**

**Part of:** GS Prelims and GS-I – Culture & GS-II – Policies and Interventions

**In news**

- The Union Home Minister distributed financial grants to 8,000 Namghars under the Assam Darshan programme.

**Important value additions**

- Namghars are traditional Vaisnavite monasteries of Assam.
- Namghars (literally meaning Prayer House) are places for congregational worship associated with the entire Assamese community and the Ekasarana sect of Hinduism, in particular, that is native to Assam.
- Besides forming the primary structure used for worship, they also function as meeting houses and theatres for dramatic performances (bhaona).
- The Namghar, also called the kirtanghar, is also the central structure in the Sattras (monasteries of the Ekasarana religion) where the other buildings are positioned around it.
- Namghars were introduced in Assam by the Vaishnavite saints Damodaradeva, Madhavadeva and Sankaradeva for Assamese people where they can culture and practice naam (devotional songs) and Bhakti of God (devotion).

**34th PRAGATI interaction held**

**Part of:** GS Prelims and GS-II –Policies and Interventions

**In news**

- Indian Prime Minister chaired the thirty-fourth PRAGATI interaction.
- In the meeting, various projects, programmes and grievances were reviewed

**Important value additions****Pro-Active Governance And Timely Implementation (PRAGATI)**

- It is a unique integrating and interactive platform.
- The platform is aimed at addressing common man's grievances, and simultaneously monitoring and reviewing important programmes and projects of the Central and State Governments

- It is also a robust system for bringing e-transparency and e-accountability with real-time presence and exchange among the key stakeholders.
- The PRAGATI platform uniquely bundles three latest technologies: Digital data management, video-conferencing and geo-spatial technology.
- It is a three-tier system (PMO, Union Government Secretaries, and Chief Secretaries of the States).
- The system has been designed in-house by the PMO team with the help of National Informatics Center (NIC).

### PM SVANidhi scheme for street vendors

**Context:** The PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi) scheme was launched in June amid the pandemic.

#### **What is the scheme all about?**

- It is a micro-credit facility that provides street vendors a collateral-free loan of Rs 10,000 with low rates of interest for a period of one year.
- So far (Dec 2020), the scheme – part of the AtmaNirbhar Bharat package – has received 31.6 Lakh applications from across the country (except from Sikkim, which is officially not taking part in it).
- Of the total applications, 16.7 Lakh have been sanctioned and 12.17 Lakh have been disbursed.

#### **Why was this scheme rolled out?**

- **To deal with Impact of Pandemic & Lockdown:** The COVID-19 pandemic and the nationwide lockdown disrupted the business cycle and left daily wage workers & street vendors out of work. The scheme aims at aiding the vendors at getting back on their feet financially.
- **Establishing Credit Score & Digital Record:** In the long term, it aims at establishing a credit score for the vendors as well as creating a digital record of their socio-economic status, so that they can avail the Central government schemes later.
- **Prevents Debt Trap:** Many vendors belong to what we call the informal economy, and often borrow from private lenders which charge them exorbitant rates of interest. This loan charges below 12% rate of interest, and helps prevent street vendors from falling into debt trap.
- **Formalisation of Economy:** The scheme also attempts to formalise the informal sector of the economy and provide them safety nets and a means of availing loans in the future.

#### **Which vendors are eligible for the loan, and how do they apply for it?**

- All vendors who have been vending **from or before March 24, 2020** and with a certificate of vending can avail the loan.
- As per the **Street Vendors Act of 2014**, the Town Vending Committees (which comprises the local authorities and vendors from an area) issue a certificate of vending after a survey has been conducted of all the vendors.
- But since many states and cities have not conducted the survey yet, many vendors are unable to provide any such certificate of vending. Instead, as per scheme, the urban local bodies – in this case, the municipalities – shall provide a **Letter of Recommendation (LOR)** for every vendor who wishes to avail the loan.
- If the vendor is a member of a vendor association, he or she can apply,

- These documents, including the identification proof, are uploaded on a special portal made for the scheme, and the loans are sanctioned by banks and disbursed, ideally, in 10-15 days.

#### **Does the scheme legitimise vending of the applicants if the city has not conducted a Town Vending Committee survey as per the Act?**

- Once
- Letter Of Recommendation is issued by the ULBs, its mandate lasts a month, after which the survey for the issuance of the certificate of vending should be undertaken by the ULBs.
- But since it is a state subject, the central government can only direct or sensitise the state governments on the importance of doing so, and not evicting vendors who have availed the loan but do not have a certificate.
- The LORs issued by the ULB do not give any legal authorisation or rights for vending, as this is not mentioned by the scheme

#### **What are the various challenges that vendors are facing while applying for the loan?**

Even though the scheme has received a tremendous response from vendors across the country, certain areas lag others when it comes to its implementation due to various factors.

- **City-wide survey of vendors is lacking:** States across the country have unevenly implemented the Street Vendors Act of 2014, which necessitates a survey of the vendors to provide them with a certificate of vending.
- **Delay in issuing LORs:** Due to lack of comprehensive data, the vendors must first apply for a Letter of Recommendation (LORs) from the ULBs, which tends to not only delay the entire process, but can also lead to the application being rejected. Some municipalities are also slow in issuing LORs, which has kept hundreds of vendors waiting for the loan for months
- **Linkage with Aadhar:** Another issue was that mobile numbers of various vendors were not linked with their Aadhar cards. To address this, various ULBs have now set up camps. Many vendor associations are also setting up camps at markets to rectify this issue and also help the vendors in the online application process.
- **Mindset of local authorities against vendors:** Various vendors who have received the loans are often evicted from their place by either the police or by the ULB officials, hitting their only source of income and their ability to repay the loan.
- **Regional Imbalance in disbursement of loans:** Telangana, Andhra Pradesh, Uttar Pradesh, and Madhya Pradesh are among the better performing states, which have provided certificates of vending either before the pandemic or in the past few months. Other states are lagging behind.

#### **Conclusion**

Even though the scheme has received a tremendous response from vendors across the country, certain areas lag others when it comes to its implementation due to various factors.

#### **Connecting the dots**

- Atmanirbhar Bharat

## INTERNATIONAL

### Assassination of Iranian Nuclear Scientist

**Context:** The brazen murder of a top Iranian nuclear scientist, Mohsen Fakhrizadeh, outside Tehran during November last week.

Fakhrizadeh was widely regarded as a key figure in Iran's nuclear weapons programme and his assassination — for which no one has yet claimed responsibility — will have serious geopolitical implications in West Asia and beyond

#### **Critical Analysis of the killing**

##### **1. It highlights Iran's growing strategic vulnerabilities**

- This is second such high profile killing during 2020.
- [General Qasem Soleimani](#), the Iranian general in charge of the Quds Force of the Revolutionary Guard was killed by a US drone strike in January.
- The frequent attacks on high-profile Iranian targets raise questions about the hostile penetration of its society.
- There has been speculation that the assassins may have had help from locals on the ground.

##### **2. Killing was done to sabotage the renewal of Iran Nuclear Deal**

- In 2015, Iran agreed a long-term deal on its nuclear programme with a group of world powers known as the P5+1 - the US, UK, France, China, Russia and Germany
- Under the accord, Iran agreed to limit its sensitive nuclear activities and allow in international inspectors in return for the lifting of crippling economic sanctions that was imposed on Iran by US, UN and EU.
- However, in May 2018, US President Donald Trump abandoned the deal and reinstated sanctions targeting both Iran and states that trade with it.
- Subsequently in 2019, Iran also suspended commitments under the agreement. This made that the landmark deal dead.
- However, President elect Joe Biden has talked about restarting the negotiation with Iran after he assumes Presidency after Jan 20.
- For Trump Administration, Israel and Saudi Arabia — Iran's rival in the Great Game in West Asia and North Africa — such a rapprochement would be detrimental to their interests. The assassination of Fakhrizadeh is about achieving that political objective.
- If Iran retaliates vigorously, it will invite an all-out confrontation with Israel and the US and kill the prospects for a productive engagement with the Biden administration.
- Holding back will expose Iran's weakness and sharpen internal divisions between pragmatists who want to engage the US and the hardliners who are itching for a confrontation.

##### **3. Rapid transformation of Arab relations with Israel.**

- The fear of Iran has been driving Gulf Arabs to embrace Israel.
- In the last few months, Bahrain and the United Arab Emirates have normalised ties with Israel ([Abraham Accords](#))
- There is also speculation of an impending normalisation of ties between Israel and Saudi Arabia — the ideological core of the Islamic and Arab world.
- Iran has much goodwill in South Asia, but India and its neighbours have no desire to get sucked into Tehran's conflicts with the Arabs or the US.



- All this will further widen the gap between Iran and rival Arab Camp (led by Saudi Arabia, supported by US & now Israel)

#### 4. Deepening rivalry between Saudi Arabia and Turkey for the leadership of the Muslim world

- Saudi Arabia, Egypt, and the UAE want to return the Middle East towards political and religious moderation.
- However, the once secular Turkey under Recep Tayyip Erdogan has become the new champion of political Islam.
- Turkey's new religious zeal provides a good ideological cover for Erdogan's ambitions to expand its geopolitical influence in the Middle East.
- The recent developments might change the geopolitical alignments in the region with Turkey playing a more aggressive role in the conflicts of the region

#### Conclusion

- Although India has made some important adjustments to its engagement with the Middle East in recent years, Delhi can't take its eyes off the rapid changes in the region.
- New Delhi has thus far managed to maintain strong ties across the Middle East. This is a time to wait and watch, while continuing the policy of bipartisan friendship.

#### Connecting the dots

- India's Chabahar Project and consequent changes: Click [here](#) & [here](#)

#### Regional priorities: On the SCO summit

**Context:** Three years after joining the eight-nation Shanghai Cooperation Organisation (SCO), India hosted the SCO heads of governments (HoG) meeting for the first time.

For a brief background on SCO, Click [here](#)

Although the HoG Council consists of the Prime Ministers of all SCO countries, neither Prime Minister Narendra Modi nor Pakistan Prime Minister Imran Khan attended the meet, ostensibly due to a protocol mismatch between the position of PMs in parliamentary democracies versus those in the former Soviet bloc and China

#### Key Takeaways from the 2020 Meeting (Virtual)

- **Response to COVID-19:** Need for developing a "Plan of Priority Practical Measures for 2021-2022 to overcome the socio-economic, financial and food consequences of COVID-19 in the region".
- **Multilateralism:** Members committed to strengthening multilateralism and the UN charter while welcoming the fact that the grouping is now being seen as an "influential and responsible participant in the modern system of international relations".
- **India-Pakistan Differences:** PM Modi was represented by Vice-President Venkaiah Naidu, who made strong observations on cross-border terrorism; he called it the SCO region's "biggest challenge", in comments aimed at Pakistan. Pakistan's representative too spoke of the need to combat what she called "state terrorism" in disputed areas, in a reference to Jammu and Kashmir. **Neither statement on terrorism was reflected in the final joint statement**, which focused on trade and economic issues.
- **India- China Differences:** India also marked its differences with China over the Belt and Road Initiative (BRI) by not joining other SCO members in a paragraph endorsing the BRI

**What is the importance of SCO going forward?**

- Regardless of the differences, Indian government has consistently maintained the importance of the SCO grouping, referred to as the “Asian NATO” although it does not mandate security alliances
- **Regional Engagement:** The SCO is one of the few regional structures India is a part of now, given a decline in its engagement with SAARC, BBIN and the RCEP.
- **Connect with Central Asia:** The SCO provides India a convenient channel for its outreach — trade and strategic ties — to Central Asian countries.
- **Platform to solve tense bilateral issues:** SCO has afforded a platform, when needed, for bilateral discussions with the two countries India has the most tense ties with: China and Pakistan. While the government has eschewed meetings with Pakistan for the last five years, it has used the SCO for talks with China, including this year amidst the LAC stand-off.
- **Geopolitical Balance:** SCO has been seen as a grouping worth pursuing as it retains India’s geopolitical balance, a useful counterpoint to India’s otherwise much more robust relations with the western world.

### Conclusion

The SCO serves India’s quest for geopolitical balance and regional engagement

### Connecting the dots

- Future of SAARC and BIMSTEC
- India’s Non-Alignment Policy in the times of increasing Polarisation in world

## SCO Online International Exhibition launched

**Part of:** GS Prelims

### In news

- Recently, the Vice President of India has launched the first ever SCO Online Exhibition on Shared Buddhist Heritage.

### Key takeaways

- **Developed by:** National Museum, New Delhi, in active collaboration with SCO member countries.
- **Participants:** Museums from India, Kazakhstan, China, Kyrgyz Republic, Pakistan, Russia, Tajikistan and Uzbekistan.
- The launch happened during the 19th Meeting of the Shanghai Cooperation Organisation Council of Heads of Government (SCO CHG), held in New Delhi.
- India highlighted that the crossborder terrorism is the biggest challenge for the SCO countries.
- Buddhist philosophy and art of Central Asia connects SCO countries to each other and presents an excellent opportunity for visitors to access, appreciate and compare Buddhist art antiquities from SCO countries on a single platform.
- The visitors can explore the Indian Buddhist treasures from the Gandhara and Mathura Schools, Nalanda, Amaravati, Sarnath, etc. in a 3D virtual format.
- The international exhibition gives a glimpse of the artistic wealth displayed in various museums across Asia and also represents the artistic excellence embedded within an eclectic historical timeline.

### Important value addition

**Shanghai Cooperation Organisation**

- It is a permanent intergovernmental international and a Eurasian political, economic and military organization.
- **Aim:** To maintain peace, security and stability in the region created in 2001.
- The SCO is widely regarded as the "Alliance of the East", due to its growing centrality in Asia-Pacific, and has been the primary security pillar of the region.
- It is the largest regional organisation in the world in terms of geographical coverage and population, covering three-fifths of the Eurasian continent and nearly half of the human population.
- **Members:** Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India and Pakistan.
- **Observer states:** Afghanistan, Belarus, Iran and Mongolia.
- **Dialogue Partners:** Azerbaijan, Armenia, Cambodia, Nepal, Turkey and Sri Lanka.
- Influenza makes people more susceptible to bacterial infections.

### Place in news: Bhashan Char Island

**Part of:** GS Prelims and GS-II – International Relations

**In news**

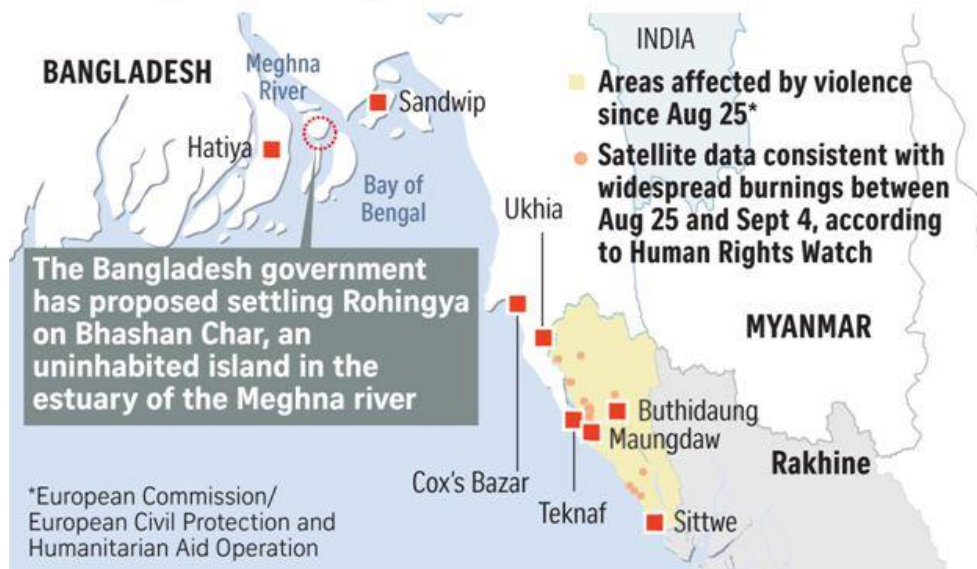
- Recently, Bangladesh has transported more than 1,600 Rohingya refugees to a low-lying Bhashan Char island in the first phase of a controversial planned relocation of 1,00,000 people.

### **Important value addition**

#### **Bhashan Char Island**

- Bhasan Char also known as Char Piya, is an island in Hatiya, Bangladesh.
- The island was formed with Himalayan silt in 2006.
- It is underwater from June to September annually because of the monsoon, and it has no flood fences.
- In June 2015, the Bangladeshi government suggested resettling Rohingya refugees on the island under its Ashrayan Project.
- The proposal was characterized by the UN Refugee Agency as “logistically challenging”.
- Bhashan Char is a flood-prone island that emerged from the sea 20 years ago.
- **Concerns:** (1) It is flood-prone island; (2) Vulnerable to frequent cyclones; (3) Too small to occupy and nurture the Rohingya population; (4) Chronic overcrowding in camps.

## Housing the refugees



For further read, click the below links:

- [ICJ's ruling on Myanmar Rohingya](#)
- Understanding Rohingya crisis: [Click here](#)

### France's New Security Law

**Context:** For the second weekend in a row, Paris has been rocked by street protests after the government introduced a controversial security bill in parliament that seeks to provide greater powers and protections for police officers.

**What does the proposed law seek to do?**

- **Ground and air mass surveillance:** The proposed "global security" law allow the police and the paramilitary forces to use body cameras and drones to film citizens, and allow the recorded footage to be livestreamed to the command post
- **Restricting the filming of police officers:** Another provision penalises publishing "the image of the face or any other element of identification" of a police or paramilitary official who is acting in "a police operation", if the dissemination is done with "the intent of harming their physical or mental integrity".

**What are the opponents of the new law saying?**

- **Accountability of Police action weakened:** Journalists and human rights groups have expressed concern that new law would make it harder to cover public events and record instances of police violence, thus making it more difficult to hold officers accountable.
- **Police Excesses will go undetected:** Critics have highlighted two instances of police excesses within one week at the end of November that grabbed national attention, which they argue would have been left unreported had the proposed law been in place
- **Authoritarian Law:** Civil liberties groups and left-wing parties have called the bill authoritarian and unnecessary, insisting that existing laws are sufficient to protect police officers.

- **Draconian in character:** Its wording has also been criticised as being open-ended, and reporters have worried how the courts would interpret the term “intent of harming”.
- **Freedom of Press:** The provisions in bill intend to target press freedoms by restricting the coverage of police officers during protests/ clashes.

#### What have the bill’s supporters said?

- **Protecting Police Officers:** The new law is aimed at protecting police officers and their families from online trolling and harassment when off duty.
- **Support by Citizens:** As per a Bloomberg report, a government-commissioned survey found that 58 per cent of respondents backed the new security law.
- **Rise of Conservatives as reaction to rising terrorism:** Notably, analysts have pointed to a rightward shift of the French electorate supporting such laws that empower police. This shift from liberalism is more pronounced in the aftermath of a spate of recent terror attacks including the October beheading of schoolteacher Samuel Paty, and the Nice stabbing attack.
- **Domestic Politics:** President Macron has been increasingly trying to appeal to right-wing voters, especially before the Presidential election of early 2022. Laws like these which have tinge of majoritarianism is useful in attracting such voters

#### Value Addition

- Another controversial legal measure, the so-called “anti-separatism” bill is being proposed by the French Government.
- The bill, which aims to crack down on Islamic radicalism, is to be introduced in Parliament in December, and envisages a range of measures, including school education reforms to ensure Muslim children do not drop out, stricter controls on mosques and preachers, and has caused concern among Muslims in France.

#### Connecting the dots

- George [Floyd Incident of US](#)
- [Thoothukudi violence and Judicial Deaths in India](#)

### [Pakistan and China designated among countries of Particular Concern by the USA](#)

**Part of:** GS Prelims and GS-II – International Relations

#### In news

- Recently, the US State Department has designated Pakistan and China among eight other countries that are of particular concern for violation of religious freedom.

#### Key takeaways

- Designation of the CPC is the top tier recommendation by the US Commission on International Religious Freedom (USCIRF) when it comes to violation of international religious freedom.
- It is followed by Special Watch List Countries for severe violations.
- **Nations on the CPC list:** Pakistan, China, Myanmar, Eritrea, Iran, Nigeria, North Korea, Saudi Arabia, Tajikistan and Turkmenistan.
- USCIRF recommendation that India, Russia, Syria and Vietnam be also designated CPCs was not accepted by the US State Department.

- Governments that have engaged in or tolerated severe violations of religious freedom are included in Special Watch List list.
  - Comoros, Cuba, Nicaragua and Russia are on the list.
- 

## Morocco Normalises Relations with Israel

**Part of:** GS Prelims and GS-II – International Relations

### **In news**

- Recently, Morocco and Israel have agreed to normalise relations in a deal brokered by the USA.

### **Key takeaways**

- It makes Morocco the fourth Arab country, after the UAE, Bahrain (Abraham Accords) and Sudan, to normalise relations with Israel.
- Morocco will establish full diplomatic relations and resume official contacts with Israel.
- Embassies shall open soon to promote economic cooperation between Israeli and Moroccan companies.
- Morocco intends to facilitate direct flights for Israeli tourists to and from Morocco.



### **Related articles:**

- Sudan and Israel: [Click here](#)
  - Bahrain and Israel: [Click here](#)
  - Abraham Accords: [Click here](#)
- 

## Antitrust suit against Facebook

**Context:** Two lawsuits filed by the United States federal government and governments of 48 US states and territories have put under the scanner the acquisition by Facebook of Instagram and WhatsApp.

The US Federal Trade Commission (FTC)'s lawsuit accused Facebook of eliminating competition with the acquisitions — even though the FTC itself had approved the deals.

### What does the FTC's lawsuit say?

- The FTC has alleged that Facebook “is illegally maintaining its personal **social networking monopoly** through a years-long course of anticompetitive conduct”.
- The lawsuit followed a “lengthy investigation” by a “coalition of attorneys general of US States”.
- Facebook’s 2012 acquisition of Instagram for \$1 billion and the 2014 acquisition of WhatsApp for \$19 billion are being cited as attempts to illegally eliminate competition.
- The FTC has also accused Facebook of imposing “anti-competitive conditions on software developers”. It says Facebook’s practices have harmed competition and left “consumers with few choices for personal social networking, and deprives advertisers of the benefits of competition.”
- The lawsuit cites how Facebook restricted its “third-party software developers’ access to valuable interconnections to its platform” by exercising strict control over its application programming interfaces or APIs.
- It gives the example of Twitter’s short video app Vine, which was introduced in 2013. Facebook shut down API access for Vine, effectively restricting its ability to grow.
- Facebook’s monopoly over social media has resulted in “staggering profits” for the company, the lawsuit says.

### What does the lawsuit say specifically about Facebook’s acquisition of Instagram and WhatsApp?

- The FTC has noted that the acquisition of Instagram came at a time when users were switching “from desktop computers to smartphones” and “increasingly embracing photo-sharing”.
- With WhatsApp, Facebook did the same, the FTC says. When it realised that WhatsApp was “clear global ‘category leader’ in mobile messaging,” it bought out the competition.
- According to the complaint, Facebook acquiring WhatsApp also meant that “any future threat will have a more difficult time gaining scale in mobile messaging”.
- This has largely been true. WhatsApp dominates the mobile messaging space, and currently has over 2 billion users globally; more than 400 million in India alone. No other messaging app comes even close

### But FTC had approved the Instagram and WhatsApp deals.

- Yes – but it says its “action challenges more than just the acquisitions”. It is “challenging a multi-year course of conduct that constituted monopolization of the personal social networking market”.
- The FTC also says that it can – and often does – challenge approved transactions when they violate the law

### And what does the FTC want?

- The lawsuit seeks “divestitures of assets, including Instagram and WhatsApp”.
- So if the FTC wins, Facebook might be forced to sell Instagram and WhatsApp, two products that are more appealing to younger users and in new geographies, and are therefore crucial to driving the company’s growth.
- The FTC also wants to “prohibit Facebook from imposing anti-competitive conditions on software developers”. This means Facebook will have to “seek prior notice and approval for future mergers and acquisitions”.

### How has Facebook responded?

- Facebook has called the lawsuits “revisionist history.” The company has said it is not true that it has no competition, and named “Apple, Google, Twitter, Snap, Amazon, TikTok and Microsoft”.
- The lawsuits ignore the fact that users can and do move often to competing apps
- Facebook has also questioned the “attack” on its acquisitions, and recalled that the FTC had cleared the Instagram deal after an in-depth review.
- The WhatsApp transaction had been reviewed by the European Union as well.
- According to Facebook, “Those hard challenges are best solved by updating the rules of the Internet.”
- Regarding the API restrictions, Facebook argues that it is allowed to choose its business partners. YouTube, Twitter, and WeChat have done well despite these API policies, it says.

### Conclusion

The unfolding of the lawsuit is being watched closely by the world as it has ramifications on the Big Tech Industry and also on the evolution of digital technologies.

### [Morocco-Israel deal](#)

**Context:** Morocco has become the fourth Arab country to normalise ties with Israel in five months.

On December 10, U.S. President Donald Trump announced the deal, claiming that the series of normalisation agreements between Arab countries (the [UAE](#), Bahrain, Sudan and now Morocco) and the Jewish state was bringing peace to West Asia.

In October, as parts of its deal to get Sudan to normalise ties with Israel, Washington removed Sudan from its ‘State Sponsor of Terrorism’ list, of which it made been a part for over 27 years.

### What does Morocco get in return?

- In return for Morocco’s decision to establish formal ties with Israel, the **U.S. has recognised Moroccan sovereignty over Western Sahara**, a disputed territory in northwestern Africa, which has been under Moroccan control for decades.
- Morocco has long been campaigning internationally, using economic pressure and diplomacy, for recognition of its claims to Western Sahara.
- It got what it wanted from the deal with Israel, a country with which it had developed covert ties for decades.



Image Source: [Aljazeera](#)



### What is the history of Western Sahara dispute?

- Western Sahara is large, arid and sparsely populated region that shares a border with Morocco, Algeria and Mauritania and has a long Atlantic coast was a Spanish colony. The region is home to the Sahrawi tribe.
- In the 1970s, when international and local pressure mounted on Spain to vacate its colonies in Africa, Libya and Algeria helped found a Sahrawi insurgency group against the Spanish rule in Western Sahara.
- In 1975, as part of the **Madrid Accords** with Morocco and Mauritania, Spain decided to leave the region, which was then called Spanish Sahara.
- According to the accords, Spain would exit the territory before February 28, 1976 and until then, the Spanish Governor General would administer the territory, with help from two Moroccan and Mauritanian Deputy Governors.
- Both Morocco and Mauritania moved troops to Western Sahara to assert their claims.
- **Sahrawi insurgency group (Polisario Front)** backed by Algeria continued the guerilla resistance, demanding their withdrawal. On February 27, 1976, a day before Spain ended its presence, the Polisario Front declared the Sahrawi Arab Democratic Republic (SADR) in Western Sahara.
- The SADR has been recognised by several African countries and is a **member of the African Union**.

### What is UN Court's view on the dispute and the basis of Morocco's claim?

- Morocco and Mauritania had laid claims to Western Sahara even when it was a Spanish colony.
- In 1974, the International Court of Justice was asked by the U.N. General Assembly to look into the legal ties, if any, that existed between Western Sahara and Morocco and Mauritania at the time of its colonisation by Spain in the 19th century.
- The court found no evidence "of any ties of territorial sovereignty" between the Western Sahara and either Morocco or Mauritania, but stated that there were "indications" that some **tribes in the territory were loyal to the Moroccan Sultan**.
- In its conclusion, the court endorsed the General Assembly Resolution 1541 that affirmed that to ensure decolonisation, complete compliance with the principle of self-determination is required.
- But King Hassan II of Morocco hailed the court's opinion as vindication of country's stand and moved troops across the northern border to Western Sahara. Mauritania joined in later. It set the **stage for a three-way fight** with the Polisario Front resisting both countries.

### How did the conflict progress over the decades?

- The three-way conflict lasted for almost four years. In August 1979, Mauritania signed a peace treaty with Polisario, bringing the country's military involvement in Western Sahara to an end.
- When Mauritanian forces withdrew from the southern part of the desert that they had occupied, Morocco swiftly advanced troops.
- The war continued between Moroccan troops and the Polisario Front.
- In 1991, when a ceasefire was finally achieved, Morocco had taken control of about 80% of the territory. The independence referendum, promised in the 1991 ceasefire, is yet to take place
- The war had forced almost 200,000 Sahrawis to flee the territory to neighbouring Algeria, where Polisario is running squalid refugee camps
- The SADR is operating largely from the eastern flank of Western Sahara and the refugee camps.

- Moroccan troops have built a **huge sand wall called Berm**, from the Atlantic coast of Western Sahara to the mountains of Morocco, dividing the territories they control from that of Polisario.

#### What impact will the Israel deal have on the conflict?

- The normalisation deal between Morocco and Israel itself will not have any direct bearing on Western Sahara.
- But the concession the U.S. has given to Morocco — Washington’s recognition of Moroccan occupation of Western Sahara in return for Morocco’s agreement with Israel — could flare up the conflict.
- The uptick in hostilities in the region would further destabilise Western Africa and **undermine decades worth of efforts** by both the US and France to rid the region of Islamist insurgencies.
- Recently, Morocco launched an offensive into the U.N.-controlled buffer zone between the two sides and in return, Polisario said it would resume armed conflict.
- After the Trump administration’s recognition of Morocco’s claim, Polisario said it would continue fighting until Moroccan troops are forced to withdraw.
- The **U.S. move would upset Algeria**, the biggest backer of Polisario.
- Among the countries that condemned the U.S. decision is Russia, which said the recognition of Moroccan sovereignty over Western Sahara “is a violation of international law”.

### San Isidro Movement in Cuba

**Part of:** GS Prelims and GS-II – International Relations; Fundamental Rights

#### In news

- In Cuba, a campaign by artists and activists demanding greater freedom of expression has been in news recently.
- Cuba has been under an authoritarian communist regime for more than 60 years.

#### Key takeaways

- The Movimiento San Isidro, or the San Isidro Movement (MSI), started two years ago to protest state censorship of artistic works.
- It started in September 2018, when the Cuban government sought to enforce Decree 349 which is a law that would have given powers to the nation’s Culture Ministry to restrict cultural activity it did not approve of.
- To protest against the decree, artists, poets, journalists and activists gathered in San Isidro, It is a Black-majority locality that is among Havana’s poorest yet most culturally active wards, and which also forms part of the Old Havana UNESCO World Heritage Site.
- After 2015 deal between Cuba and the US, one of whose provisions stipulated that the Cuban regime should allow its people greater internet freedoms, the protesters managed to connect and amplify their message over the internet with relative ease.
- It has now become a platform for Cuban dissidents both within and outside the country.

## Rohingya Refugees: Bangladesh Relocating them

**Context:** Bangladesh transported more than 1,600 Rohingya refugees to a low-lying island Bhashan Char.

### **Recent Developments**

- Bangladesh government has announced a controversial relocation policy to move 1,00,000 of Rohingya refugees to Bhashan Char island.
- Almost a million Rohingya — most of whom fled a military offensive in neighbouring Myanmar three years ago — live in squalid camps in south-eastern Bangladesh. Any return to Myanmar appears unlikely for now.
- On December 10, agencies reported that a UN Human Rights investigator had requested Bangladesh to allow a safety assessment of the remote islet of Bhashan Char, where the government had shipped 1,600-odd Rohingya refugees.

### **Is the islet safe?**

- Bhashan Char is a char-land of around 13,000 acres, formed by the accumulation of silt where the river Meghna meets the Bay of Bengal carrying rich alluvial deposits.
- Char-lands are a common feature in Meghna and Padma rivers and literally mean “shifting landmass”.
- As the name reveals, the char was not part of the permanent land feature of Bangladesh, but appeared recently.
- Bhashan Char is surrounded by a mangrove forest that has given it geographical stability.
- Sensing a tourism opportunity, the Bangladesh government had declared Bhashan Char as a protected forest land in 2013.
- It is a two-and-a-half-hours boat ride away from Cox’s Bazar in Chittagong.
- The main argument for the char-land being unsafe is that these lands are known to be unstable and flood-prone. The other fear factor includes the tropical cyclones that visit the area every year.

### **What is the arrangement for the Rohingya?**

- Over the past few years, Bangladesh has constructed roads and brought modern telecommunication networks to Bhashan Char.
- The Bangladesh government has earmarked around 1,350 acres for the Rohingya refugees, of which 432 acres is dedicated to their rehabilitation and the rest remains for future projects.
- The government has constructed a large number of housing units in the section designated for the Rohingya.
- 1600 Rohingya refugees are now being housed in red-roofed residential units and most houses are built four feet above the ground to help them withstand unexpected high tidal waves

### **Why is Bangladesh moving the refugees?**

- Rohingya refugees of Kutupalong, near Cox’s Bazar, have been living in a large refugee camp near the forested borders with Myanmar since 2017, when they were forced to traverse the forest and the rivers that constitute the border between Bangladesh and Myanmar’s Rakhine province.
- Ever since their arrival, the refugees, numbering 1 million, have been living in Kutupalong refugee camp under bamboo and tarpaulin structures.
- The camp is located on a hillock, which was a sanctuary for elephants and other wild animals.
- Also, Kutupalong has also been in the news for its rising crime rate.

- Bangladesh argues that the islet will provide a safer place.

#### Why are human rights agencies upset?

- Amnesty International said Bangladesh must “drop” its plans to shift Rohingya refugees to Bhashan Char as the char-land had not yet been declared safe for habitation by the United Nations.
- It is alleged that many Rohingya who were asked to relocate said they were coerced.
- Human Rights agencies are arguing that any decisions relating to the relocation of refugees must be transparent and involve the full participation of the Rohingya people.

#### What happens next?

- Diplomatic sources have confirmed that Dhaka does not plan to relocate the entire refugee settlement and only aims at reducing the congestion in Kutupalong.
- The country’s long-term plan for Rohingya refugees is to seek their repatriation to the Rakhine province of Myanmar.

#### Connecting the dots

- ICJ’s ruling on Myanmar Rohingyas: Click [here](#)

### [Israel establishes diplomatic ties with Bhutan](#)

**Part of:** GS Prelims and GS-II – International Relations

#### In news

- Recently, Israel has established diplomatic ties with Bhutan.



#### Key

#### takeaways

- Earlier, Israel has supported Bhutanese human resource development since 1982, especially in the area of agriculture development that has benefited hundreds of Bhutanese youths.
- The two nations established a formal diplomatic relation and agreed to work closely together in various sectors.

- The two sides will not be setting up embassies and will coordinate through their missions in Delhi.
- The establishment of diplomatic relations would create new avenues for cooperation between the two countries in water management, technology, human resource development, agricultural sciences and other areas of mutual benefit.
- As for tourism, Bhutan that limits the number of outsiders who can enter will now likely be more open to Israelis.
- The ties between the peoples through cultural exchanges and tourism would also be further enhanced.

#### Related articles:

- Israel-Morocco deal: [Click here](#)
- Sudan and Israel: [Click here](#)
- Bahrain and Israel: [Click here](#)
- Abraham Accords: [Click here](#)

### [China's Brahmaputra dam: Trans-boundary water governance in South Asia](#)

**Context:** On November 29, 2020, Chinese state media announced that Beijing will build a mega dam on the the Yarlung Zangbo river close to the Line of Actual Control in Tibet. The move could have a far-reaching impact on water security in India's North East.

#### South Asia and Transboundary rivers

- The whole of South Asia comes under 'high' to 'extremely high' water-stressed areas. This, even though it has a lot of fresh water.
- South Asia is separated from the rest of the continent by the Himalayas and the Hindu Kush mountain ranges.
- There are some 25 major rivers in South Asia. Of the 30 major river basins of the world identified as global level priorities for the protection of aquatic biodiversity, nine are in India, which constitutes the majority of South Asia.
- The Brahmaputra carries a flow volume that is greater than Europe's 20 major rivers. The river passes through the world's deepest gorge and three of its most populous countries — China, India and Bangladesh — before merging into the Bay of Bengal.

#### Issues

- **Transboundary Impact:** Natural resources like rivers, forests and mountains pay no attention to political boundaries. They have evolved over millions of years of natural cycles. Dams or water diversion projects in the upstream areas of rivers have a significant effect on downstream countries through which river flows.
- **Advantage to China:** China has a clear advantage in building dams and other infrastructure to reduce or divert water flow from river systems originating in Tibet. Communities in the lower riparian areas have to accept what is being offered to them. Thus, there is a general feeling that China controls the headwaters.
- **Ecological threats for Himalayan Ecosystem:** The glaciers and snowlines of the Himalayas are retreating. If the current warming continues, there is a projection that the waterways of the

Tibetan Plateau could first flood and then dry up gradually, turning the vast landscape into a desert.

- **Water conflicts:** Discontent and conflict result from a situation where water demand is more than its supply. They can also result from asymmetric power controls over access and allocation of water between competing users or between transboundary governments. Further, the lack of a cooperative framework for managing river systems in South Asia leads to unresolved conflicts.
- **Unsustainable Approach:** The reductionist engineering approach only looks at short-term gains on a model of competitive exploitation of river water resource. The supply-centric irrigation department talks in terms of diversions, dams, barrages, canals, tunnels and turbines. They do not know the science of bringing water into the river.
- **Domestic Federal Issue:** As water is a state subject, states assume exclusive powers over water governance. The cumulative outcomes at the national level do not inspire optimism about long-term security and sustainability. This is partly attributed to the poor devolution by states and weak institutions.

#### Way Ahead- A change of Approach

- The real issue is not the scarcity of water resources. Rather, it is scarcity of 'social resources' and abundance of 'power disparities' between the riparians
- We have to reconsider the fluvial landscape approach to river basin management. This approach respects the integrity of the landscape and the catchments.
- It respects river behaviour and patterns, it respects the river's legitimate rights to flood and cause droughts. They are inseparable parts of the hydrological cycle.
- The fluvial memory concept is not based on 'solutionising' at reach scales on an ad-hoc basis. It takes the entire flow-habitat-catchment perspective.
- Since the Ganga-Brahmaputra-Meghna basin and the Himalayas are shared by all riparian states, the fluvial memory of the Brahmaputra should be respected and it should be allowed to flow freely from source to mouth without any major obstructions.

### [India-Bangladesh Virtual Summit held](#)

**Part of:** GS Prelims and GS-II – International Relations

#### In news

- Indian Prime Minister and Prime Minister of Bangladesh held a Summit in virtual format recently.

#### Key takeaways

- The two sides jointly inaugurated the Bangabandhu-Bapu Digital Exhibition.
- They jointly inaugurated a railway link between Haldibari in India and Chilahati in Bangladesh during the summit.
- Haldibari - Chilahati route will be beneficial for transit into Bangladesh from Assam and West Bengal.
- They also agreed to hold an early meeting of the Joint Boundary Conference to prepare a new set of strip maps along the stretch of Ichhamati, Kalindi, Raimongol and the Hariabhanga Rivers.
- Beautification and city development project in Rajshahi City was also inaugurated.
- Construction of Khalishpur Collegiate Girl's School in Khulna was inaugurated as well.

### List of MoUs/Agreements signed during the Summit:

- Framework of Understanding on Cooperation in the Hydrocarbon Sector
- MoU regarding Indian Grant Assistance for Implementation of High Impact Community Development Projects through Local Bodies and other Public Sector Institutions
- Protocol on Transboundary Elephant Conservation
- MoU for Supply of Equipment & Improvement of Garbage/Solid Waste Disposal Ground at Lamchori Area for Barishal City Corporation
- MoU on Cooperation in the field of Agriculture
- MoU between Father of the Nation Bangabandhu Sheikh Mujibur Rahman Memorial Museum, Dhaka, Bangladesh and the National Museum, New Delhi, India
- Terms of Reference of India-Bangladesh CEO's Forum



### [India pledges a sum of USD 1 million to the World Anti-Doping Agency \(WADA\)](#)

**Part of:** GS Prelims and GS-II – International Relations  
**In news**

- India has pledged a sum of USD 1 million to the World Anti-Doping Agency (WADA) towards the agency's scientific research budget.
- It will allow WADA to develop innovative anti-doping testing and detection methods.

### **Important value additions**

### The World Anti-Doping Agency

- It is a foundation initiated by the International Olympic Committee to promote, coordinate and monitor the fight against drugs in sports.
- The agency's key activities include monitoring of the World Anti-Doping Code, whose provisions are enforced by the UNESCO International Convention against Doping in Sport.
- Headquarters: Montreal, Quebec, Canada.
- Established in: 1999.

### Fordow Fuel Enrichment Plant (FFEP)

**Part of:** GS Prelims and GS-II – International Relations

#### **In news**

- According to satellite images, Iran has begun construction on a site at its underground nuclear facility at Fordow amid tensions with the U.S. over its atomic programme.



#### **Key takeaways**

- Fordow Fuel Enrichment Plant (FFEP) is an Iranian underground uranium enrichment facility located 20 miles northeast of the Iranian city of Qom, near Fordow village.
- It is the second Iranian uranium enrichment facility, the other one being that of Natanz.



Iran has not publicly acknowledged any new construction at Fordow.

## [Preventing Financing Of Proliferation Of Weapons Of Mass Destruction bill passed by Turkey](#)

**Part of:** GS Prelims and GS-II –International Relations

### **In news**


- The Turkish parliament passed a bill called “Preventing Financing of Proliferation of Weapons of Mass Destruction”.
- It would increase the monitoring of civil society groups.




### **Key takeaways**

- The Bill was passed following the 2019 report on Turkey prepared by the intergovernmental body Financial Action Task Force (FATF) meant to fight money laundering and terror financing.
- The bill consists of 43 articles and has made changes to seven laws on Turkey’s Law of Associations.
- It is meant to keep Turkey from being blacklisted by the Paris-based watchdog of terror financing.

- The Bill gives the Turkish government the power to appoint trustees to NGOs, to suspend their activities, seize their assets and monitor their sources of funding.
- Critics believe that it violates the provisions under the Turkish constitution since it interferes with the right to freedom of association





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## INDIA AND THE WORLD

### India-Vietnam Talks held

**Part of:** GS Prelims and GS-II – International Relations

**In news**

- Recently, Defence Ministers of India and Vietnam discussed collaboration in defence industry capability building, training and cooperation in United Nations (UN) peacekeeping operations, etc.



**Key takeaways**

- Both countries reaffirmed the strong India-Vietnam Defence cooperation which is a key pillar of Comprehensive Strategic Partnership (2016).
- India emphasised on closer defence industry cooperation by concluding an institutionalised framework agreement in the near future.
- Vietnam thanked India for the assistance by Indian Armed Forces in capacity building of Vietnamese Defence Forces especially in the field of Human Resource development.
- India is also willing to enhance the scope and level of training for all three services of Vietnam Defence forces in Indian Defence Institutes.

- The two nations Discussed cooperation in UN peacekeeping operations.
- They discussed cooperation in the field of Hydrography which will enable sharing of Hydrographic data and assist in production of navigational charts.

#### Do you know?

- Vietnam has also invited India for ASEAN Defence Ministers' Meeting-Plus (ADMM Plus) being hosted by Vietnam in December 2020.
- The ADMM-Plus is a platform for the [Association of Southeast Asian Nations \(ASEAN\)](#) and its eight Dialogue Partners - Australia, China, India, Japan, New Zealand, Republic of Korea, Russia and the USA - to strengthen security and defence cooperation for peace, stability, and development in the region.

### China gives 'go ahead' for New Dam on Brahmaputra

**Part of:** GS Prelims and GS-II – International Relations

#### In news

- Recently, China has given the go ahead for a Chinese hydropower company to construct the first downstream hydropower project on the lower reaches of the river Brahmaputra.



#### Key takeaways

- The state-owned hydropower company signed a strategic cooperation agreement with the Tibet Autonomous Region (TAR) government to implement hydropower exploitation in the downstream of the Yarlung Zangbo river as part of the new Five Year Plan (2021-2025).
- This will be the first time the downstream sections of the river will be tapped.
- The location of the planned project has not been mentioned anywhere.

- This 50 km section alone offers a potential of developing 70 million kilowatt hours (Kwh).

### Important value addition

#### Brahmaputra

- It originates under the name of Siang or Dihang, from the Chemayungdung glacier of the Kailash range near the Mansarovar lake.
- It enters India west of Sadiya town in Arunachal Pradesh.
- **Tributaries:** Dibang, Lohit, Siang, Burhi Dihing, Tista, and Dhansari.
- It is a perennial river.
- It has several peculiar characteristics due to its geography and prevailing climatic conditions.
- It is flooded twice annually.
- One flood is caused by the melting of the Himalayan snow in summer and the other due to the monsoon flows.
- The frequency of these floods has increased.
- These floods are devastating due to climate change and its impact on high and low flows.
- These pose a concern for the population and food security in the lower riparian states of India and Bangladesh.
- The river is in itself dynamic as frequent landslides and geological activity force it to change course very often.

### [India attends ADMM-PLUS Meeting virtually](#)

**Part of:** GS Prelims and GS-II – International Relations

#### In news

- Indian Defence Minister recently attended the 14th ASEAN Defence Ministers' Meeting Plus organized online at Hanoi, Vietnam that marked the 10th anniversary of ADMM Plus.

### Important value addition

#### ASEAN Defense Minister's Meeting-Plus (ADMM-Plus)

- ADMM-Plus is the only official framework of Defense Minister's meetings in the Asia-Pacific Region.
- It is a platform for ASEAN and its eight Dialogue Partners to strengthen security and defence cooperation for peace, stability, and development in the region.
- **Members:** The ADMM-Plus comprises the ten ASEAN countries as well as Australia, China, Japan, India, the Republic of Korea, New Zealand, Russia and the United States.
- **Established in:** 2010.

#### Related article:

- [India-Vietnam talks held](#)

- [ASEAN](#)

## [TWG meeting held between India, Iran, and Uzbekistan on Chabahar port](#)

**Part of:** GS Prelims and GS-II – International Relations

**In news**

- The first Trilateral Working Group (TWG) Meeting between India, Iran and Uzbekistan on the joint use of Chabahar Port was held.

**Key takeaways**

- The Meeting was jointly chaired by Secretary (Shipping), Government of India, Deputy Minister of Transport, Uzbekistan and Deputy Transport Minister of Iran.
- During the meeting, the participants discussed joint use of Chabahar Port for trade and transit purposes and enhanced regional connectivity.
- All sides also welcomed India's proposal to hold "Chabahar Day" on the side-lines of the International Maritime Summit scheduled to be hosted by India in January 2021.
- The meeting was held as a follow up of decisions taken during the virtual summit held between Indian Prime Minister and President of Uzbekistan recently.

**Do you know?**

- Chabahar Port is a seaport in Chabahar located in south-eastern Iran, on the Gulf of Oman.
- It serves as Iran's only oceanic port, and consists of two separate ports named Shahid Kalantari and Shahid Beheshti.

**Related articles:**

- Chabahar port and US sanctions: [Click here](#)
- India losing Chabahar project: [Click here](#)
- Iran dropping India from Chabahar Rail Project: [Click here](#)

## [India is right to bet on a post-Brexit UK](#)

**Context:** India recently invited the United Kingdom (UK)'s Prime Minister Boris Johnson as chief guest for Republic Day 2021.

The visit will take place less than a month after the UK leaves the European Union — with or without a deal. The timing and occasion of the visit signals intent on both sides to develop a genuine partnership. For decades, India-UK relations remained suboptimal because neither side was invested in truly understanding what the other valued. Some of the reasons that led to suboptimal relationship are

1. **Kashmir Issue:** In India, London's motivations were — incorrectly — viewed as a former colonial power's (UK) desire to weigh in on regional issues such as Kashmir by tilting towards Pakistan.
2. **Post-Study Work Permit:** London scrapped the post-study work permit for international students which led to a sharp drop in Indian student numbers between 2013-17, even as Chinese student numbers swelled based on special visa arrangements. This trend is now reversing as the post-study work permit has been reintroduced.

3. **Afghan War:** In UK, India's lack of appreciation for the UK's security concerns about troops in Afghanistan and radicalisation at home — both of which necessitate a security partnership with Pakistan — remained an irritant.
4. **Military Purchases:** India's 2012 decision to purchase the French Dassault Rafale over the UK's Eurofighter Typhoon fighter jet increased the estrangement
5. **Brexit:** London became busy in its domestic political turmoil and bureaucratic transitions. But whenever it did express interest to augment the relationship, New Delhi refused citing Brexit-related uncertainties.
6. **Economic reasons:** India has shied away from FTA given London's emphasis on easy capital flows to and from India, which would hit Indian producers and retailers hard, without entertaining India's reciprocal demand for liberal labour flows.

#### **PM Johnson's visit offers an opportunity for a reset.**

- **Signing FTAs:** Though difficult to achieve in the short-term, both countries have an incentive to explore the viability of a Free Trade Agreement (FTA). With both the economies under stress due to the pandemic, they have an incentive to revisit the irritants in signing the FTA.
- **Alternative to RCEP:** Trade Agreement with UK offer an alternative as India seeks to reduce economic linkages with China. [India's decision to stay out of RCEP](#) will help capitalise on British, and European, economic overtures
- **China Factor:** In addition to economic incentives, London's sharp downturn in relations with Beijing since the introduction of the draconian national security law in Hong Kong imparts strategic synergy to India-UK relations
- **UK's Foreign Policy:** The UK's Integrated Review of Security, Defence, Development, and Foreign Policy 2021 has indicated that London must tilt towards the Indo-Pacific. The aim is to augment the UK's presence in the Indian Ocean Region and work with powers such as India, Japan, and Australia, along with the EU and the US, to counter China.
- **Vaccine Development:** India remains a top global exporter of raw materials for the pharmaceutical industry and will play an important role in the mass production of the Covid-19 vaccine.
- **Collaboration in sectors** such as digital technology, the climate crisis, and vaccine development will also see a fillip if both countries sign FTA and collaborate together.

#### **Conclusion**

There are miles to go before this partnership realises its true potential, but it is set to become "poll-proof" as India bets on a post-Brexit UK

### [India ranks 131 in 2020 UN Human Development Index](#)

**Part of:** GS Prelims and GS-II – Health; Education

#### **In news**

- Human Development Index was released recently.
- **Released by:** United Nations Development Programme (UNDP).
- India dropped to 131st spot among 189 countries
- India's HDI value for 2019 is 0.645 which put it in the medium human development category.
- India had ranked 130 in 2018 in the index.

**Key takeaways**

- Life expectancy of Indians at birth in 2019 was 69.7 years.
- Bangladesh has a life expectancy of 72.6 years and Pakistan 67.3 years.
- India, Bhutan (129), Bangladesh (133), Nepal (142), and Pakistan (154) were ranked among countries with medium human development.
- **Top countries:** Norway (1), Ireland (2), Switzerland (3), Hong Kong (4) and Iceland (5)
- According to the report, India's gross national income per capita fell to \$6,681 in 2019 from \$6,829 in 2018 on purchasing power parity (PPP) basis.
- Indigenous children in Cambodia, India and Thailand show more malnutrition-related issues such as stunting and wasting.

**Do you know?**

- Human Development Index is the measure of a nation's health, education, and standards of living
- Purchasing power parity or PPP is a measurement of prices in different countries that uses the prices of specific goods to compare the absolute purchasing power of the countries' currencies.

**India – Bangladesh**

**Context:** The Bangladesh marks its liberation war victory day on December 16, it is a good time to look at India-Bangladesh ties.

- Bangladesh is India's largest trading partner in South Asia.
- Between 2009-10 and 2015-16, the trade deficit grew in India's favour at a staggering 164.4%.
- FDI from India to Bangladesh is \$3.11 billion, including Reliance's \$642-million 745 MW gas-fired project and Adani's \$400 million in Mirsarai Economic Zone.
- Today, India and Bangladesh are better connected and goods are transported by road, rail and river routes using Bangladeshi vessels, trucks and railway.
- Recent agreements allow India to ship goods through Mongla port road, rail, and water routes.

**Issues**

- The border remains sensitive. 294 Bangladeshis were killed on the Indo-Bangla border.
- Water remains another difficult issue. Bangladeshis have observed the tug-of-war on the Teesta water-sharing issue between the Centre and state.
- India's controversial Citizenship (Amendment) Act (CAA) and National Register of Citizens (NRC) have created a negative impression in Bangladesh of India's intent.
- Bangladesh is China's second-largest arms export destination. Chinese firms have been outbidding their Indian counterparts in infrastructure projects.

**Conclusion**

- If Indo-Bangla relations are to move to "newer heights", then unresolved issues have to be dealt with soon.

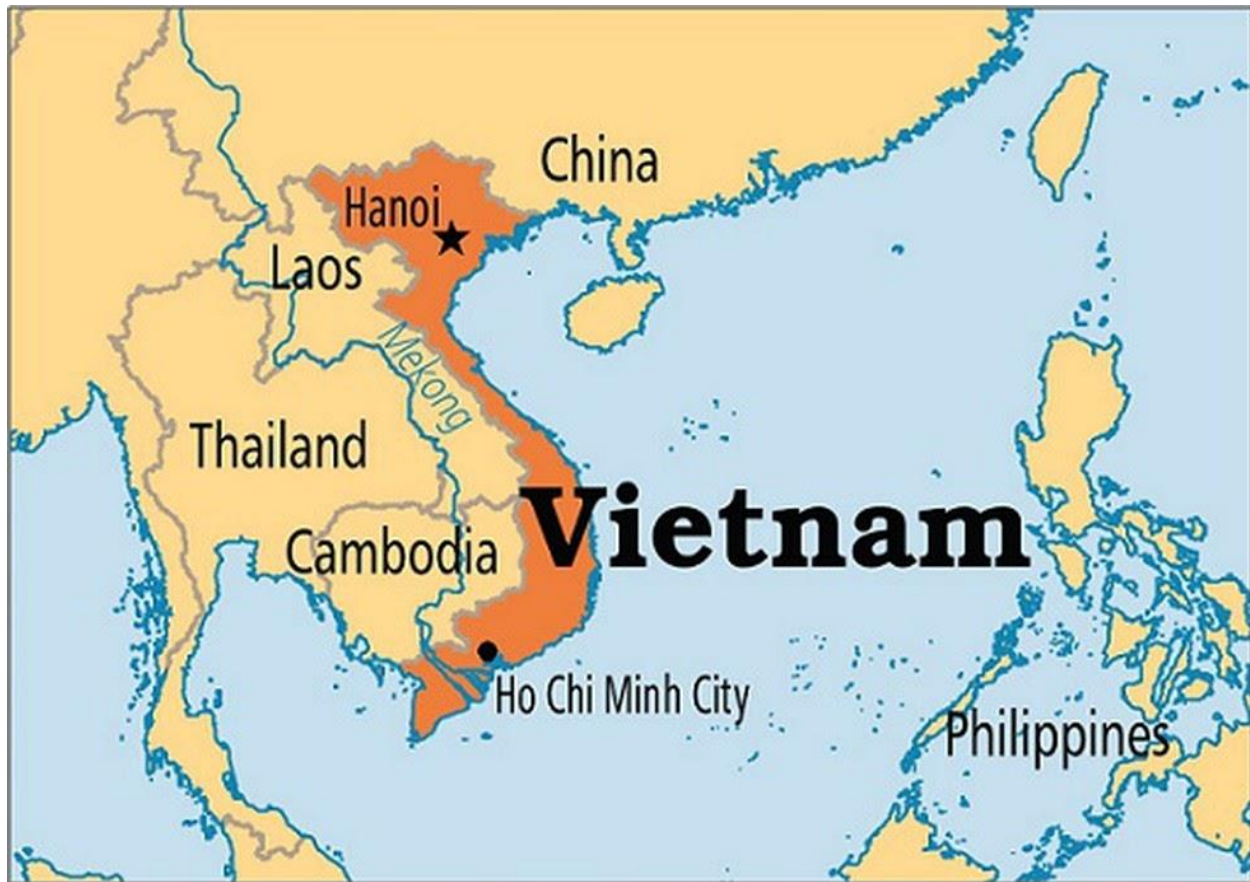
**India-Vietnam Leaders' Virtual Summit**

**Part of:** GS Prelims and GS-II – International Relations



**In news**

- Indian Prime Minister held a Virtual Summit with H.E. Nguyen Xuan Phuc, Prime Minister of Vietnam.

**Key takeaways**

- A 'Joint Vision for Peace, Prosperity and People' document was adopted during the Summit, to guide the future development of the India-Vietnam Comprehensive Strategic Partnership.
- Both leaders also welcomed the signing of a Plan of Action for period 2021-2023 for further implementation of Comprehensive Strategic Partnership to implement the Joint Vision.

**Announcements made:**

- Implementation of the High Speed Guard Boat (HSGB) Manufacturing Project for Vietnam Border Guard Command under the US\$ 100 million Defence Line of Credit extended by Government of India to Vietnam;
- Completion and handing over of seven Development Projects with Indian 'Grant-in-Aid' Assistance of US\$ 1.5 million for the benefit of local community in Vietnam's Ninh Thuan province.
- Enhancing the number of annual Quick Impact Projects (QIPs) from currently five to ten commencing FY 2021-2022.
- Three new Development Partnership projects in heritage conservation in Vietnam (F-block of Temple at My Son; Dong Duong Buddhist Monastery in Quang Nam province; and Nhan Cham Tower in Phu Yen province).

Launch of bilateral project for preparing an Encyclopaedia on India - Vietnam Civilizational and Cultural Relations.

### [Cabinet approves MoU between India and Bhutan on Cooperation in the peaceful uses of outer space](#)

**Part of:** GS Prelims and GS-II –International relations

**In news**

- The Union Cabinet chaired by Prime Minister approved Memorandum of Understanding (MoU) between the India and Bhutan on Cooperation in the peaceful uses of outer space.

**Key takeaways**

- This MoU shall enable India and Bhutan to pursue cooperation in potential interest areas, such as remote sensing of the earth; satellite communication and satellite based navigation; Space science and planetary exploration; use of spacecraft and space systems and ground system; and application of space technology.
- This MoU would lead to set up a Joint Working Group which will further work out the plan of action including the time-frame and the means of implementation
- The signed MoU will provide Impetus to explore cooperation possibilities in the field of remote sensing of the earth; satellite communication; satellite navigation; space science and exploration of outer space.



### [Cabinet approves Opening of 3 Indian Missions in Estonia, Paraguay and Dominican Republic](#)

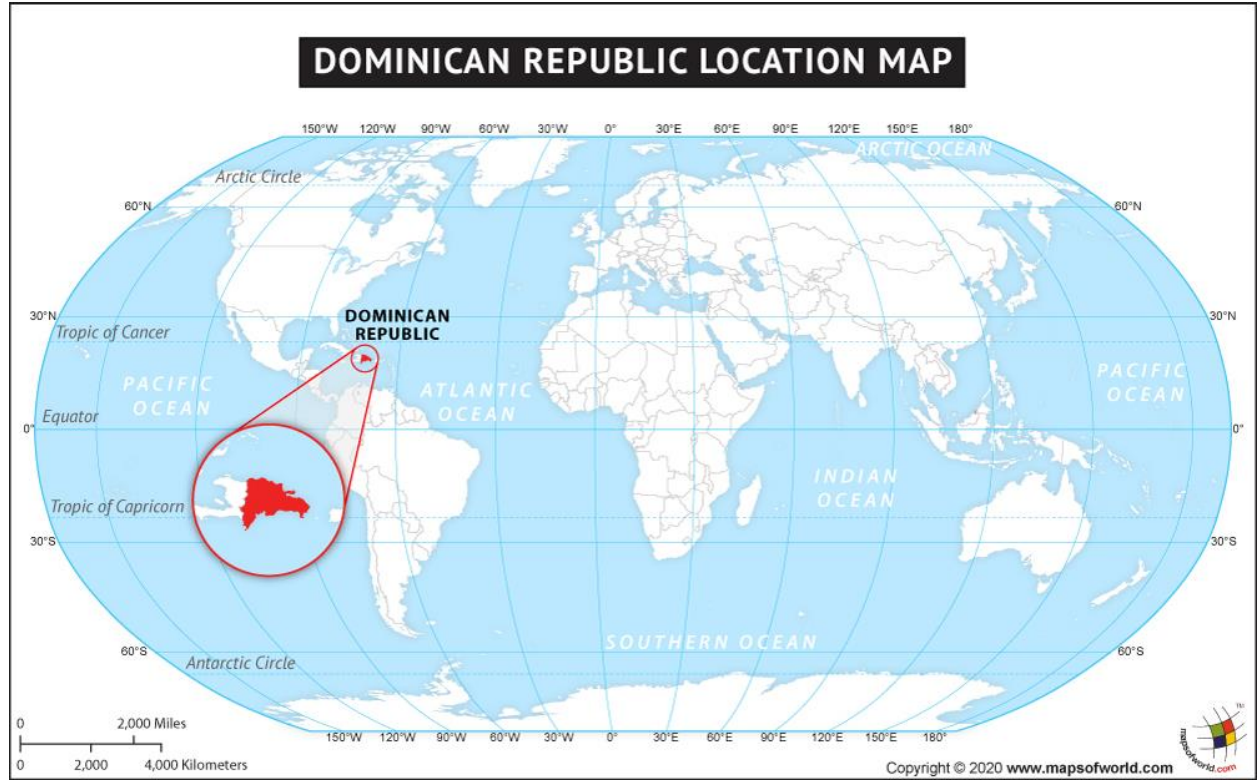
**Part of:** GS Prelims and GS-III – International Relations

**In news**

- The Union Cabinet chaired by Prime Minister approved the opening of 3 Indian Missions in Estonia, Paraguay and Dominican Republic in 2021.

- Opening of Indian Missions in these countries will help expand India's diplomatic footprint, deepen political relations, enable growth of bilateral trade, investment and economic engagements, facilitate stronger people-to-people contacts, bolster political outreach in multilateral fora and help garner support for India's foreign policy objectives.
- Indian mission in these countries will also better assist the Indian community and protect their interests.





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## ECONOMY

### Historic Recession: On India's GDP slump

**Context:** Provisional estimates of GDP for the second quarter of the 2020-21 show economic output shrank by 7.5%, following the 23.9% contraction in the first quarter.

The economy shrank for a second successive quarter, marking a recession for the first time in independent India's history.

#### Key Statistics

- The overall GDP figure of ₹33,14,167 crore (at 2011-12 prices) reveals output has slid back to the lowest level in 12 quarters.
- **Private consumption expenditure** — the single biggest component propelling GDP with a share exceeding 50% at constant prices and edging toward 60% in current prices — continued to shrink (-11.3%), reflecting both consumer wariness to spend amid the pandemic and the impact of lost jobs and reduced incomes.
- **Government consumption** spending that was hitherto a bulwark contracted by 22% revealing the precarious state of public finances.
- In the real economy, electricity and other utility services joined agriculture in posting growth, expanding 4.4%, as the post-lockdown resumption of industrial activity lifted power and water consumption.
- Financial, real estate and professional services, which contribute about a fourth of the GVA, widened contraction from the first quarter, shrinking 8.3%

**Statement 1: Quarterly Estimates of GVA at Basic Prices in Q2 (July-September) of 2020-21 (at 2011-12 Prices)**

(₹ in crore)

Industry	GVA at Basic Price									
	2018-19		2019-20		2020-21		Percentage Change Over Previous Year			
	Q1	Q2	Q1	Q2	Q1	Q2	2019-20	2020-21		
1. Agriculture, Forestry & Fishing	4,27,177	3,55,283	4,39,843	3,67,758	4,54,658	3,80,239	3.0	3.5	3.4	3.4
2. Mining & Quarrying	88,634	69,723	92,807	68,978	71,209	62,674	4.7	-1.1	-23.3	-9.1
3. Manufacturing	5,61,875	5,79,649	5,78,936	5,76,112	3,51,396	5,79,683	3.0	-0.6	-39.3	0.6
4. Electricity, Gas, Water Supply & Other Utility Services	74,998	76,567	81,628	79,525	75,877	83,051	8.8	3.9	-7.0	4.4
5. Construction	2,49,913	2,37,907	2,62,828	2,44,092	1,30,750	2,23,121	5.2	2.6	-50.3	-8.6
6. Trade, Hotels, Transport, Communication & Services related to Broadcasting	6,09,330	5,87,337	6,30,860	6,11,609	3,34,284	5,16,500	3.5	4.1	-47.0	-15.6
7. Financial, Real Estate & Professional Services	7,57,850	8,16,260	8,03,322	8,64,974	7,60,491	7,94,995	6.0	6.0	-5.3	-8.1
8. Public Administration, Defence & Other Services	3,87,589	4,19,300	4,17,483	4,65,096	3,74,656	4,08,326	7.7	10.9	-10.3	-12.2
<b>GVA at Basic Prices</b>	<b>31,57,366</b>	<b>31,42,027</b>	<b>33,07,707</b>	<b>32,78,144</b>	<b>25,53,320</b>	<b>30,48,589</b>	<b>4.8</b>	<b>4.3</b>	<b>-22.8</b>	<b>-7.0</b>

Figure 2: Source: [Indian Express](https://www.indianexpress.com)

However, the 7.5% decline data has been met with all-round cheers. That is counter-intuitive but not without justification.

- **Better than expected results:** The -7.5% figure is decidedly lower than most street estimates. The sharper-than-expected economic “recovery” —Q1 was 23.9% decline— has substantially changed how the Indian economy is being viewed.

- **Better recovery than Global average:** According to an analysis by the State Bank of India's research team, 49 countries have declared GDP data for the July-Sept quarter. The average decline of these 49 countries is 12.4%. In comparison, India's 7.5% looks much better.
- **Economic recovery is fairly broad-based:** Looking at the Gross Value Addition of each sector, as show in the figure 2, we see that as compared to just one sector adding positive value in Q1, three sectors added positive value in Q2 (green circles). Moreover, in three of the remaining five sectors, the rate of decline decelerated — highlighted in green boxes.
- **Positive growth registered by India's manufacturing industry:** Part of this can be explained by a weak base — check out the minus 0.6% in Q2 of 2019-20. IIP manufacturing declined by 6.7% (average of Jul/Aug/Sep) while manufacturing GVA grew by 0.6%. This incongruence can be explained by companies increasing their incomes not by selling more but by ruthlessly getting rid of employees, which is not healthy sign and could undermine future demand.
- **Hope of Positive growth rate by Q4:** Most experts now expect that by Q4, the nominal GDP growth rate will recover so far that even after subtracting inflation rate, India would register positive real growth in at least the fourth quarter.

### Conclusion

Government has to revive demand by enabling more money into the hands of consumers (cutting taxes, increasing subsidies) so as to bring back growth in the economy.

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## [International Association of Insurance Supervisors \(IAIS\)](#)

**Part of:** GS Prelims and GS-III – Economy

### In news

- The International Financial Services Centres Authority (IFSCA) obtained membership of International Association of Insurance Supervisors (IAIS).
- With this membership IFSCA would have access to IAIS's global network and would be able to exchange ideas and information with other global regulators.
- This would help in developing a vibrant global Insurance hub in IFSC at GIFT City.

### Important value addition

#### International Association of Insurance Supervisors (IAIS)

- **Established in:** 1994
  - **Headquarter:** Switzerland.
  - It is a voluntary membership organization of insurance supervisors and regulators from more than 200 jurisdictions, constituting 97% of the world's insurance premiums.
  - Some of the leading members of IAIS are: (1) United Kingdom- Financial Conduct Authority (FCA); (2) USA- National Association of Insurance Commissioners (NAIC); (3) India- Insurance Regulatory and Development Authority of India (IRDAI) etc.
  - It is the international standard-setting body responsible for developing and assisting in the implementation of principles, standards and other supporting material for the supervision of the insurance sector.
- 

## [Muni Bonds](#)

**Part of:** GS Prelims and GS-III – Economy

**In news**

- Bonds issued by the Lucknow Municipal Corporation (LMC) were listed on the BSE, raising Rs 200 crore for Uttar Pradesh's capital.

**Key takeaways**

- According to UP Chief Minister, Ghaziabad will be the next to issue a municipal issue and it will be followed by Prayagraj, Varanasi, Agra and Kanpur.
- Lucknow is the ninth city in the country to raise capital through municipal bonds.
- Until now, a cumulative amount of Rs 3,600 crore has been raised via muni bonds in the country.
- The money raised using such bonds is typically used for infra projects such as roads, water and housing.
- In 2015, market regulator SEBI had issued the framework for raising capital by way of muni bonds.
- Among the key eligibility criteria for issuing these bonds is that the local body shouldn't have negative net worth in any of the three preceding financial years and shouldn't have defaulted on payments in the last one year.

## Aatmanirbhar Bharat & Small Entrepreneurs

**Manufacturing**

- The slow growth of India's manufacturing sector has been a long-standing concern for policymakers.
- India's manufacturing sector generates less than 20% of the national output, and it has been overshadowed by China.

**Aatmanirbhar Bharat**

- It is aimed at addressing this deficiency. More restrictive trade will enable entrepreneurs to tap into India's large domestic market rather than relying just on exports.
- The shift towards the domestic market has been fueled by the size of the domestic market, the rise of the middle-class, and India's young demographics.
- Restrictive trade regime
- India's expansion in the manufacturing sector came primarily from the expansion of small entrepreneurs, who account for 99% of establishments and create 80% of jobs in the manufacturing sector.
- Small entrepreneurs expanded in the tradable sector but contracted in the non-tradable sector.
- The shift towards a more restrictive trade regime may benefit a few large conglomerates, but it will harm small entrepreneurs, and slow down the pace of job creation.
- The entire net job growth in the manufacturing sector during the last three decades came primarily from small enterprises in the tradable sector.
- This trend in the expansion of jobs and small enterprises in the manufacturing sector was not observed in the non-tradable sector.

**Trade Liberalisation**

- The expansion of small entrepreneurs in the tradable sector and contraction in the non-tradable sector shows that India's trade liberalization has primarily benefitted small entrepreneurs, who became an integral part of the global supply chains.
- Trade liberalization played a key role in enabling small enterprises to become an integral part of the global supply chains.
- Trade liberalization and the rapid pace of liberalization boosted India's size of the informal tradable sector.

### Informal Sector

- Young entrepreneurs in the informal sector have created more jobs compared to the large established conglomerates in the formal sector.
- The informal sector has remained the key driver of poverty reduction, compared to publicly funded poverty programmes.
- Small entrepreneurs conform much more closely to the overall contours of India's economic geography than large conglomerates.
- Not all jobs in the informal economy yield paltry incomes. Many self-employed earn more than unskilled or low-skilled workers in the formal economy.
- There are huge horizontal and vertical linkages between large and small firms. Small firms are an important supplier of inputs to large firms.

### Friendly Trade Regime

- India's young demographics, and limited employment generated by large industrial conglomerates, has increased the importance of a friendly trade regime for small entrepreneurs who create a majority of jobs in India.
- Trade flexibility and global integration has enabled millions of more women to find jobs, and better manage work-life balance.
- The reversal in the trade regime may break the friendship that currently exists between large and small enterprises and informal and formal sectors.

## [RBI introduces risk-based internal audit norms for NBFCs, UCBs](#)

**Part of:** GS Prelims and GS-III – Economy

### In news

- The RBI recently announced the introduction of risk-based internal audit norms for large urban cooperative banks (UCBs) and non-banking financial companies (NBFCs).

### Key takeaways

- **Aim of the introduction:** Improving governance and assurance functions at supervised entities.
- The guidelines related to the appointment of statutory auditors for commercial banks, UCBs and NBFCs in order to improve the quality of financial reporting were also laid out.
- The growing significance of NBFCs and their interlinkages with different parts of the financial system had made it imperative to enhance the sector's resilience.
- Thus it had been decided to put in place transparent criteria for the declaration of dividends by different categories of NBFCs.



- Regional rural banks would be allowed to access the liquidity adjustment facility (LAF), marginal standing facility (MSF) of the RBI and call/notice money market.
- The RBI has proposed to issue Digital Payment Security Controls directions for the regulated entities in order to improve the ecosystem of digital payment channels with better security and convenience for users.

#### Related articles:

- **Know more about NBFCs:** [Click here](#)
- **RBI's measures to boost economy:** [Click here](#)
- **Marginal Standing Facility:** [Click here](#)

### [Himachal Pradesh government trying to obtain GIs for products native to the State](#)

**Part of:** GS Prelims and GS-III – GI tags

#### In news

- The Himachal Pradesh government is trying to obtain GIs (Geographical Indication) tags for five products from the state.
- These are Karsog Kulth, Thangi of Pangi, Chamba Metal Crafts, Chamba Chukh, and Rajmah of Bharmour.

#### Key takeaways

- **Karsog Kulth:** Kulthi or Kulth (horse gram) is a legume grown as a kharif crop in Himachal Pradesh. Kulth grown in the Karsog area of Mandi district is believed to be particularly rich in amino acids.
- **Pangi ki Thangi:** It is a type of hazelnut which grows in Pangi valley located in the north-western edge of Himachal. It is known for its unique flavour and sweetness.
- **Chamba metal crafts:** These include items such as metal idols and brass utensils which were made by skilled artisans in the courts of kings of Chamba.
- **Chamba Chukh:** It's a chutney made from green and red chillies grown in Chamba, and prepared in traditional and unique ways.
- **Bharmouri Rajmah:** It's more specifically called the Kugtalu Rajmah, since it grows in the area around Kugti Pass in the Bharmour region of Chamba district. It is rich in proteins and has a unique flavour.

#### Do you know?

- Himachal Pradesh currently has GI tags in four handicrafts (Kullu Shawl, Chamba Rumal, Kinnauri Shawl and Kangra Paintings), three agricultural products (Kangra Tea, Basmati and Himachali Kala Zeera) and one manufactured product (Himachali Chulli Oil).

### [Invest India wins UN Investment Promotion Award](#)

**Part of:** GS Prelims and GS-III – Economy; Investment

#### In news

- The United Nations (UNCTAD) has declared Invest India- the National Investment Promotion Agency of India- as a winner of the 2020 United Nations Investment Promotion Award.

**Key takeaways**

- The award recognizes and celebrates the outstanding achievements and best practices of Investment Promotion Agencies (IPAs) across the globe.
- This United Nations Investment Promotion Award is the most coveted award for Investment Promotion Agencies.
- UNCTAD is a central agency that monitors performance of IPAs and identifies global best practices.
- Germany, South Korea and Singapore have been some of the past winners of the award.

**Important value addition****Invest India**

- It is the national investment promotion and facilitation agency
- **Set up in:** 2009
- It is a non-profit venture
- Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.
- **Focus:** Sector-specific investor targeting and development of new partnerships to enable sustainable investments in India.
- It also partners with substantial investment promotion agencies and multilateral organizations.
- It actively works with several Indian states to build capacity and bring in global best practices in investment targeting, promotion and facilitation areas.

**The United Nations Conference on Trade and Development (UNCTAD)**

- It was established in 1964 as a permanent intergovernmental body.
- It deals with trade, investment, and development issues.
- **Goal:** Maximize the trade, investment and development opportunities of developing countries and assist them in their efforts to integrate into the world economy on an equitable basis.
- **Established by:** United Nations General Assembly in 1964
- It reports to the UN General Assembly and United Nations Economic and Social Council.
- **Primary objective:** To formulate policies relating to all aspects of development including trade, aid, transport, finance and technology.
- The permanent secretariat is in Geneva, Switzerland

## [Peer learning exchange on fintech solutions held between India and Better Than Cash Alliance](#)

**Part of:** GS Prelims and GS-II – International Relations & GS-III – Digital economy

**In news**

- Recently, India and UN-Based Better Than Cash Alliance organized a joint Peer learning exchange on fintech solutions for responsible digital payments at the last mile.

**Important value addition****Better Than Cash Alliance**

- It is based at the United Nations.

- **Created in:** 2012.
  - **Launched by:** United Nations Capital Development Fund, the United States Agency for International Development, the Bill & Melinda Gates Foundation, Citigroup, the Ford Foundation, the Omidyar Network, and Visa Inc.
  - It is a partnership of governments, companies and international organizations that accelerates the transition from cash to responsible digital payments.
  - The Alliance has 75 members which are committed to digitizing payments.
  - The Alliance Secretariat works to digitize payments by - Providing advisory services based on their priorities; Sharing action-oriented research and fostering peer learning on responsible practices; Conducting advocacy at national, regional and global level.
- 

## [Real Time Gross Settlement System \(RTGS\) now available for round the clock transactions](#)

**Part of:** GS Prelims and GS-III – Banking

**In news**

- The RBI has announced that the Real Time Gross Settlement System (RTGS) facility will now be available for round the clock transactions, with effect from December 14<sup>th</sup>, 2020.

**Key takeaways**

- Round the clock availability of RTGS will provide extended flexibility to businesses for effecting payments.
- The system can also be leveraged to enhance operations of Indian financial markets and cross-border payments.
- RTGS uses ISO 20022 format which is the best-in-class messaging standard for financial transactions.

**Important value addition:**

- The term real-time gross settlement (RTGS) refers to a funds transfer system that allows for the instantaneous transfer of money and/or securities.
  - It is the continuous process of settling payments on an individual order basis without netting debits with credits across the books of a central bank.
  - Once completed, real-time gross settlement payments are final and irrevocable.
  - RTGS presently handles 6.35 lakh transactions daily.
- 

## [Diversity Requirements In Indian Companies](#)

**Part of:** GS Prelims and GS-III – Economy

**In news**

- The NASDAQ stock exchange in the US may soon require all listed companies to include at least one female board member and one member from a racial minority group or from the LGBTQ community on their board of directors.

**Key takeaways**

- There also diversity requirements from Indian companies and they are expected to comply with these rules.
- All public companies which are listed on stock exchanges and companies with either a paid-up capital of Rs 100 crore or annual turnover over Rs 300 crore are required to have at least one woman board member under the Companies Act.
- The Securities and Exchange Board of India (SEBI) further requires, since April 1, 2020, that the top 1000 listed companies by market capitalisation have a woman board member who is also an independent director.

**Do you know?**

- According to data compiled by Institutional Investor Advisory Services (IIAS), 17% of directors in the Nifty 500 companies were women.
- The report by liAS noted that only 3% of Nifty 500 companies had no women directors.

**Related articles:**

- SEBI: [Click here](#)

**[Special Assistance To States For Capital Expenditure Scheme](#)**

**Part of:** GS Prelims and GS-III – Economy

**In news**

- All the states except Tamil Nadu have availed benefits of the newly announced scheme for Special Assistance to States for Capital Expenditure.

**Key takeaways**

- The scheme was announced as a part of the Aatmanirbhar Bharat package.
- **Aim:** Boosting capital expenditure by the State Governments who are facing a difficult financial environment this year due to the shortfall in tax revenue arising from the COVID 19 pandemic.
- Capital Expenditure enhances the future productive capacity of the economy, and results in a higher rate of economic growth.
- The government had announced that the Centre will offer Rs. 12,000 crore special interest-free 50-year loan to states, exclusively for capital expenditure.
- **Parts of the scheme:** (1) Part-I of the scheme covers the north-eastern region (Rs. 200 crores); (2) Part-II is for all other States (Rs. 7500 crores); (3) Part-III of the scheme is aimed at pushing various citizen-centric reforms in the States.
- Under Part III, an amount of Rs. 2000 crores is earmarked.
- This amount will be available only to those States which carry out at least three out of the four reforms specified by the Ministry of Finance.
- **Four Reforms:** One nation one ration card, ease of doing business, urban local body/ utility reform and power sector reforms.
- As of now, Rs. 4,939.81 crore has been released as the first instalment out of Rs. 9,879.61 crore worth of capital expenditure proposals of 27 States.

## Handicraft And GI Toys Exempted From Quality Control Order

**Part of:** GS Prelims and GS-III – Economy

**In news**

- Government has exempted handicraft and GI Toys from Quality Control Order.

**Key takeaways**

- Taking steps towards the Prime Minister's vision of making India a global manufacturing hub for sale and export of toys, Department for Promotion of Industry and Internal Trade, DPIIT has devised a comprehensive action plan.
- Quality Control order has been issued by the Department for standardization and quality adherence of Toys which will become effective from 1st January next year.
- However, DPIIT has released Toys (Quality Control) Second Amendment Order, 2020.
- It exempts goods manufactured and sold by artisans registered with Development Commissioner (Handicrafts), from use of Standard Mark under licence from Bureau of Indian Standards.
- The Amendment Order also exempts products registered as Geographical Indications from following Indian Toy Standards and compulsory use of Standard Mark licence.

## The many challenges for new WTO D-G

**Context:** For the first time in its 25-year history, the World Trade Organization (WTO) will be led by a woman, as both the contending candidates for the Director-General (D-G) post are women, from Nigeria and South Korea respectively.

**Challenges for the next DG of WTO are:**

- **Competing Interests of Nations:** Her job requires balancing the diverse and varied interests of the 164 member countries.
- **Rising Nationalism:** She has tough job on reconciling competing multilateral and national visions, for the organisation to work efficiently.
- **COVID-19 Impact:** The next D-G will have to grapple with the global economic fallout of the COVID-19 pandemic and take needed measures to revive falling global economy
- **Reforms:** She has to work towards carrying out reforms of the multilateral trading system to maintain the credibility of the institution.
- **Divide Between north and south:** At the core of the divide within the WTO is the Doha Development Agenda (DDA) that is favourable for developing nations. The developed countries are working to jettison DDA in favour of a new agenda that includes, amongst others, e-commerce, investment facilitation, MSMEs and gender.
- **Restoring the WTO dispute settlement mechanism,** especially the revival of its Appellate body, is also crucial for the organisation's efficient functioning.
- **Restoring Faith of common man:** WTO has to demonstrate that it is on the side of the underdog i.e. it's mission is to enhance the conditions of poor people and not further the agenda of corporates

- **Need for Collaboration in Post COVID world:** The COVID-19 crisis has revealed the urgent and enduring need for international cooperation and collaboration, as no country can fight the pandemic alone.
- **Ensuring Supply Chains are robust:** The D-G can help mitigate the effects of the pandemic by giving clear directions on ensuring that supply chains remain free and open, recommending a standard harmonised system with classification for vaccines, and by the removal of import/export restrictions.
- **Removal for IPR barriers for Vaccine distribution:** PM Modi's reiteration that India's vaccine production and delivery capacity will help the whole of humanity will require the D-G to play a responsible role in removing barriers to intellectual property and securing a legal framework within the WTO TRIPS Agreement

### Conclusion

Most imminently, the next D-G will need to build trust among its members that the WTO needs greater engagement by all countries, to stitch fair rules in the larger interest of all nations and thwart unfair trade practices of a few.

### [Advance pricing agreements \(APAs\)](#)

An APA is an agreement between a tax payer and tax authority determining the transfer pricing methodology for pricing the tax payer's international transactions for future years.

An APA can be unilateral, bilateral, or multilateral. They can be entered into for prospective periods and also cover historical years.

### Benefits of APA are as follows

- **Proactive Tax payer:** APAs involve discussing inter-company transactions with the tax administration on a proactive basis to agree on pricing terms and eliminate any subsequent controversy.
- **Reduces Compliance Costs:** For taxpayers, they carry the benefits of freedom from onerous documentation and tax authority audits, mitigating double tax in some cases and certainty for the business.
- **Reduces Government Expenditure:** The government stands to gain through reduced disputes, redirection of scarce administration resources and collecting their fair share of tax
- **Attracts Foreign investors:** APAs boosts country's attractiveness to investors by providing a definite and predictable policy regime.
- **Good Precedence:** India's APA programme introduced in 2012 has been successful and appreciated by taxpayers and tax administrations globally. The APA annual report for 2018-19 released by the CBDT in November 2019 said 271 agreements yielding Rs 10,000 crore had been signed in six years of filings.
- **Non-adversarial Tax regime:** The last 12 months have seen additional APAs being signed. This has reinforced the government's commitment to a non-adversarial tax regime.

- **Helps businesses tide Economic Uncertainties:** For taxpayers, APAs are even more relevant in these times because business-driven restructurings and changing transfer pricing policies can be a compelling reason to pursue APAs.
- **Helps avoid litigation:** With limited resources, companies can choose to invest in getting certainty through APAs as a cost-effective alternative to uncertain and long drawn litigation.
- **Indicates Collaborative Approach of government:** APAs are a credible example of how Indian tax authorities and taxpayers have collaborated to find solutions to vexing transfer pricing problems.

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## [US Puts India on Currency Watchlist](#)

**Part of:** GS Prelims and GS-II – International Relations & GS-III - Economy

### **In news**

- Recently, the US treasury has placed India on its currency manipulator watch list.
- Vietnam and Switzerland have been labelled as currency manipulators.

### **Key takeaways**

- USA lists those countries which it feels are engaging in unfair currency practices by deliberately devaluing their currency against the dollar.
- The US Department of Treasury releases the semi-annual report where it has to track developments in international economies and inspect foreign exchange rates.
- Lowering the value of its currency provides an unfair advantage to that particular country over others.
- This is because the devaluation would reduce the cost of exports from that country and artificially show a reduction in trade deficits as a result.
- A country which meets two of the three criteria of the Trade Facilitation and Trade Enforcement Act of 2015 is placed on the Watch List. **This includes: (1)** A significant bilateral trade surplus with the US which is at least USD 20 billion over a 12-month period; **(2)** A material current account surplus equivalent to at least 2% of GDP over a 12-month period; **(3)** Persistent one-sided in at least six out of 12 months.
- Inclusion in the list does not subject to any kind of penalty and sanctions but it deteriorates the global financial image of the country.

## WHAT IT MEANS...

<p><b>For India</b>   There will be <b>pressure on RBI to cut down intervention</b>, allow the rupee to appreciate</p>	<p><b>For economy</b>   A stronger rupee would <b>partially offset the impact of rising oil prices</b> on imports</p>
<p><b>In terms of restrictions</b>   The tag <b>does not involve any</b> kind of trade restrictions</p>	<p><b>For RBI</b>   The central bank can <b>increase diversification of its reserves</b> to include non-dollar assets</p>



### Currency manipulation

**Context:** The United States has once again included India in its monitoring list of countries with potentially “questionable foreign exchange policies” and “currency manipulation”. This comes a year after India was removed from the watchlist in the US Treasury Department’s semi-annual foreign-exchange report to the US Congress

#### What does the term ‘currency manipulator’ mean?

- This is a label given by the US government to countries it feels are engaging in “unfair currency practices” by deliberately devaluing their currency against the dollar.
- The practice would mean that the country in question is **artificially lowering the value of its currency** to gain an unfair advantage over others.
- This is because the devaluation would benefit exporters as their earnings would increase

#### What are the parameters used?

An economy meeting two of the three criteria in the Trade Facilitation and Trade Enforcement Act of 2015 is placed on the Monitoring List. This includes:

1. A “significant” bilateral trade surplus with the US — one that is at least \$20 billion over a 12-month period.
2. A material current account surplus equivalent to at least 2 percent of gross domestic product (GDP) over a 12-month period.
3. “Persistent”, one-sided intervention — when net purchases of foreign currency totalling at least 2 percent of the country’s GDP over a 12 month period are conducted repeatedly, in at least six out of 12 months.

Once on the Monitoring List, an economy will remain there for at least two consecutive reports “to help ensure that any improvement in performance versus the criteria is durable and is not due to temporary factors,” according to the US treasury department.

US administration will also add and retain on the Monitoring List any major US trading partner that accounts for a “large and disproportionate” share of the overall US trade deficit, “even if that economy has not met two of the three criteria from the 2015 Act”.



### Which are the other countries in the latest monitoring list?

- The US Department of the Treasury Office of International Affairs, in its latest report to the US Congress, has included India, Taiwan and Thailand to its Monitoring List of major trading partners that “merit close attention” to their currency practices and macroeconomic policies.
- Other countries in the latest list comprise China, Japan, Korea, Germany, Italy, Singapore, Malaysia.
- India was last included in the currency watchlist in October 2018, but removed from the list that came out in May 2019.

### Why is India back in the Monitoring List again?

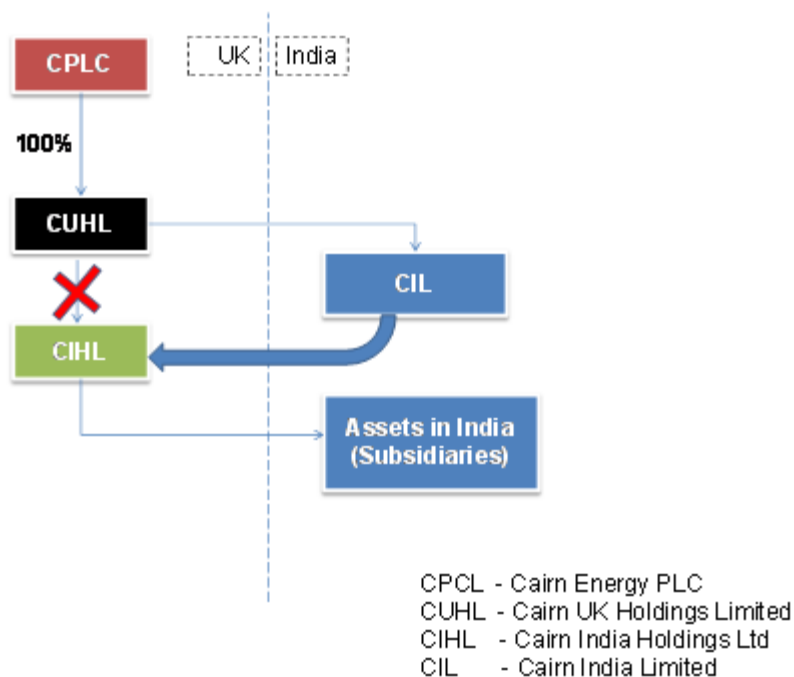
- India, which has for several years maintained a “significant” bilateral goods trade surplus with the US, crossed the \$20 billion mark, according to the latest report. Bilateral goods trade surplus totalled \$22 billion in the first four quarters through June 2020.
- Based on the central bank’s intervention data, India’s net purchases of foreign exchange accelerated notably in the second half of 2019.
- Following sales during the initial onset of the pandemic, India sustained net purchases for much of the first half of 2020, which pushed net purchases of foreign exchange to \$64 billion—or 2.4% of GDP—over the four quarters through June 2020.

### Consequences of being designated as Currency manipulator

- The designation of a country as a currency manipulator does not immediately attract any penalties, but tends to dent the confidence about a country in the global financial markets.

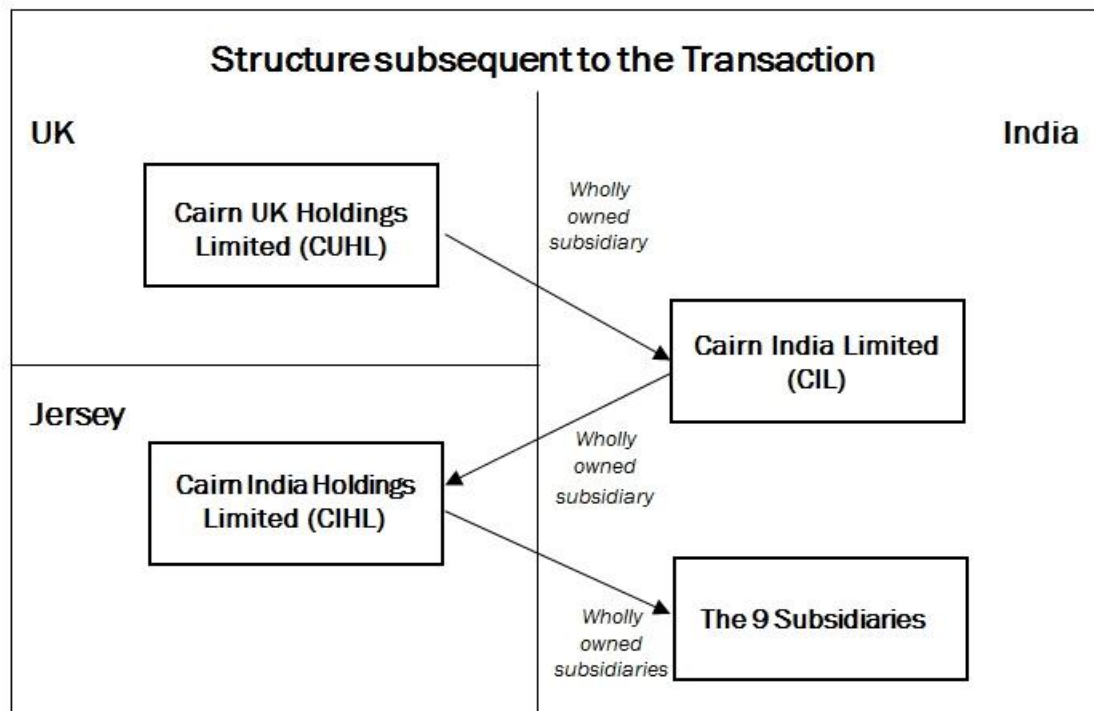
### Cairn Arbitration case

**Context:** The Permanent Court of Arbitration at The Hague has ruled that the Indian government was wrong in applying retrospective tax on Cairn. In its ruling, the international arbitration court said that Indian government must pay roughly Rs 8,000 crore in damages to Cairn.



### What is the dispute all about?

- The dispute between the Indian government and Cairn relates to retrospective taxation.
- Before 2006 (listing in BSE), the India operations of Cairn Energy were owned by a company called Cairn India Holdings Ltd (CIHL) incorporated in Jersey, UK.
- Cairn India Holdings Ltd (CIHL) was a fully owned subsidiary of Cairn UK Holdings (CUHL), in turn a fully owned subsidiary of Cairn Energy (CPLC).
- At the time of the IPO (2006), the ownership of the India assets was transferred from Cairn UK Holdings to a new company, **Cairn India Ltd(CIL)**.
- In 2006, Cairn India Ltd. (CIL) acquired the entire share capital of Cairn India Holdings (CIHL) from Cairn UK Holdings (CUHL). In exchange, 69 per cent of the shares in Cairn India were issued to Cairn UK Holdings (CUHL). **Hence, Cairn Energy (CPLC), through Cairn UK Holdings (CUHL), held 69 per cent in Cairn India.**
- Later, in 2011, Cairn Energy sold Cairn India to mining billionaire Anil Agarwal's Vedanta group, barring a minor stake of 9.8 per cent. It wanted to sell the residual stake as well but was barred by the I-T department from doing so. The government also froze payment of dividend by Cairn India to Cairn Energy.
- In 2012, government introduces retrospective tax amendment in finance bill and in 2014 the IT authorities launches a retrospective tax probe into transactions undertaken prior to IPO.



### What were the objections by IT Authorities?

- The Income Tax authorities then contented that Cairn UK had made capital gains and slapped it with a tax demand of Rs 24,500 crore.
- Owing to different interpretations of capital gains, the company refused to pay the tax, which prompted cases being filed at the Income Tax Appellate Tribunal (ITAT) and the High Court.

- While Cairn had lost the case at ITAT, a case on the valuation of capital gains is still pending before the Delhi High court.
- In 2015, Cairn's claim was brought under the terms of the UK-India Bilateral Investment Treaty, the legal seat of the tribunal was the Netherlands, and the proceedings were under the registry of the Permanent Court of Arbitration.

#### What has the arbitration court said?

- The Permanent Court of Arbitration at The Hague has maintained that the Cairn tax issue is not a tax dispute but a tax-related investment dispute and, hence, it falls under its jurisdiction.
- India's demand in past taxes, it said, was in breach of fair treatment under the UK-India Bilateral Investment Treaty.
- The tribunal ordered the government to return the value of shares it had sold, dividends seized and tax refunds withheld to recover the tax demand.
- The government was asked to **compensate Cairn** "for the total harm suffered" together with interest and cost of arbitration.

#### What has been the government response?

- The Solicitor General of India has opined that an "arbitral tribunal can't render a law passed by a sovereign Parliament ineffective,
- While senior government functionaries have asserted India's sovereign taxation rights "can't be subservient to bilateral investment treaties," PM Modi had assured global investors that "concerns over retrospective taxation would be taken care of".
- Also, Finance minister Nirmala Sitharaman has on record said that, "**we won't use retrospective taxation for income generation**".
- The verdict came barely three months after India lost arbitration to Vodafone Plc over the retrospective tax legislation amendment.

#### Connecting the dots

- Vodafone case: Click [here](#)

### [Wistron \(Apple Supplier\) Violence](#)

**Context:** Worker unrest following the non-redressal of payment and overtime issues at a new factory of Wistron Infocomm Manufacturing India Pvt Ltd, that manufactures iPhones for Apple and other products, resulted in a riot at the plant on December 12.

Production at the plant in Kolar district, Karnataka around 60 km from Bengaluru, employing 1,343 regular workers and 8,490 contract workers, was suspended following the violence.

#### Wistron's investment

- Wistron, which makes devices and peripheral systems for major global tech companies, has manufacturing facilities and R&D centres at two dozen locations around the world.
- The company started a small pilot plant in Bengaluru in 2017 to make the iPhone and, in 2018, decided to make a large investment (Rs 3,000 crore) in India for a full-fledged plant.

- The company got environmental clearance in mid-2019 and, in 2020, announced investments to the tune of Rs 1,220 crore in equipment and machinery for the Kolar plant, which is designated as a service and manufacturing centre.
- In August 2020, the plant became fully operational, with around 5,000 employees to manufacture the iPhone SE (2020) and iPhone 7 models.

#### What factors led to Labour unrest in the facility?

- **Rapid Expansion of Contractual Labour:** Wistron rapidly scaled up its contractual employee strength from around 3,000 to nearly 8,500 between September 2020 and December 2020.
- The contract employees were hired and paid through six manpower supply contractors, but their work was supervised and managed by Wistron officials
- **Overtime Work:** The manufacturing facility also moved from eight-hour to 12-hour shifts. workers were working in two compulsory 12-hour shifts. The factory was being operated like a sweatshop.
- **Irregular Payment:** Initial police investigations have revealed that the contractors were not paying the workers their full wages as per their contracts, or for overtime work. “While wages were slashed from Rs 22,000 to Rs 8,000 in some cases, wages for November were not paid until December 12.
- **Labour Rights Compromised:** With no employee grievance redressal system in place at the firm or a union, workers were constantly asking company officials for their dues.
- **Immediate Trigger for Violence:** An official of the labour department said the trigger for the violence during a 6 am shift change on December 12 was an argument over the attendance system not capturing the exact work hours logged by the workers.
- **Overblown Damages:** Wistron officials initially estimated the damage at Rs 437 crore, but later revised it downward to about Rs 43 crore saying the “violence did not cause any material damage to major manufacturing equipment and warehouses”.

#### What has been the reaction of Apple?

- Apple has put Wistron on probation, and said the company will get no more orders until it fixes the problems
- Apple employees, along with independent auditors, will monitor their progress.
- Increasingly, following pressure from the consumers’ side and also being highly conscious of its brand image, Apple has provided a ‘**Code of Conduct**’ to all its suppliers, seeking to monitor and audit compliance of labour standards and safeguards
- Pressured by Apple’s response, Wistron has also been forced to apologise to the workers, remove its Vice-President in charge of India operations, and initiate corrective measures to address workers’ grievances.

#### What are the Key Takeaways of the Incident?

- **Voices of Labour subdued in Liberal era:** That it took violence for the workers to be ‘seen’ and ‘heard’, and for corrections to be undertaken points to the realities of high-tech manufacturing outsourced through supply chains in the global south that is built on precarities of labour involved in them.
- **Wilful Violation of Labour rights:** In fact, many of the suppliers subcontracting in the high-end electronics sector including those for Apple, have been involved in wilful violations of labour standards and practices

- **Complexities of Contractual Labour:** The prevailing norms of work arrangements practised by many industries was through hired labour from multiple subcontractors/third party work supply firms. This process creates ambiguity in identifying the primary employer and thereby, seriously constrains the workers from getting effective redress of their grievances.
- **Ensuring Accountability:** Until recently, the default response of the brands has been evasion of responsibility by either shifting the onus to the subcontracting firms or keeping things in silent mode. However, Apple's actions are a step forward in corporate accountability and ethical business operations.
- **Traumatic Experience for Workers:** Forcing workers to do overtime in harsh conditions without much breaks, and under constant disciplinary monitoring by supervisors are matched by low pay and little or no social security, leading to strain and traumatic experiences, both physical and mental
- **Dangers of Student Internship:** Another prevalent phenomenon is that of unpaid, forced student internships to fill shortages in labour supply and offset costs; students from vocational educational institutions are compulsorily employed, and subjected to the same exploitative conditions as the workers. Since they are not legally classified as workers, there are no obligations to offer social protections.

### Conclusion

In the absence of avenues for workers to channelise their grievances — representative associations and unions — and adequate collective bargaining mechanisms as well as social dialogue, frequent labour unrest including to the extent of violent confrontations, could very well be a daily reality in these high-end manufacturing facilities.

### Connecting the dots

- New Labour Codes: Click [here](#)

### [Vadodara Municipal Corporation \(VMC\) to launch municipal bonds in January 2021](#)

**Part of:** GS Prelims and GS-III – Economy

#### In news

- The Vadodara Municipal Corporation (VMC) is expected to launch municipal bonds in January 2021.

#### Key takeaways

- With this, it will become the third Urban Local Body (ULB) in Gujarat to use this method to raise money to fund development work sanctioned under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT).
- It has sought approval for the same from the state government.
- Ahmedabad was the first city in south Asia to launch a municipal bond of Rs 100 crore in 1998.
- Surat Municipal Corporation was the second city in Gujarat to announce bonds in 2018.

#### Important value additions

##### Municipal bond

- A municipal bond is a kind of debt instrument where investors offer loans to local governments.

- They are issued by civic bodies for specific projects and usually have a 10-year tenure.
- The ULB pays the annual interest on the bonds to the investor at the decided rate.
- The difference between a bank loan and a municipal bond is that any institution can secure a bond only if it has favourable credit ratings.
- **Benefits:** The bond helps raise funds from the stock market. It also increases the number of investors available to the civic body, as compared to a loan from a single bank.

#### Do you know?

- Under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) scheme, urban local bodies (ULBs) are encouraged to tap the bond market.
- Bonds help ensure improved credit profiles, direct transfer of funds by the Centre, transparency and efficient revenue generation.

#### Related articles:

- About AMRUT: [Click here](#)

### Reviving the economy: 3C approach to atmanirbharta

**Context:** The economic ramifications of COVID-19 have a significant bearing on reshaping the world economic order as countries weigh their external linkages and recalibrate development strategies.

#### Do You Know?

- According to forecasts by the OECD, by end-2021, the US economy is likely to be the same size as it was in 2019, but China is expected to be 10% larger.
- Europe and Japan would languish below their pre-pandemic level of output and could do so for several years.

#### What is India's Position?

- From India's perspective, recovery in GDP growth is firmly on track and sets the foundation to regain our position as the fastest-growing major economy next year.
- For India to claim its rightful position in the new world order, it is imperative that the vision of 'Aatmanirbhar Bharat' is globally integrated to harness the opportunities created by the emerging shifts.
- At this critical juncture, it is important to set the vision of positioning Aatmanirbhar Bharat in the new world order with priorities closely linked with our global aspirations.
- Moving in this direction, our focus should be on three interconnected strategic priorities.

#### 1. Commerce: Increasing India's share in world exports and FDI

- On trade and FDI, it is crucial to reaffirm that Aatmanirbhar Bharat is not mistaken for an inward-looking India. The path taken by India is not about being self-contained but strengthening our position in global supply chains.
- Bolstering international trade and investments is key for India to lift its GDP growth and per-capita income.
- The share of **India's exports of goods and services in GDP** has declined steadily from 24.5% in 2011 to 18.7% in 2019. At 13th position globally, India has a share of 2.2% in world exports of goods and services—nearly a fifth of China (10.6%).
- It is noteworthy to mention that India's trade to GDP ratio has surpassed that of China since 2008, but our imports outweigh exports significantly.

- A renewed focus is required to rejuvenate exports with a special emphasis on **high potential manufacturing sectors**—electronics, apparels, pharma, among others.
- With regard to FDI, an analysis of G20 countries reveals that India achieved the highest growth of 20.3% (CAGR) in FDI inflows between 1990 and 2019. However, in value terms, India ranked 9th globally in 2019, which shows further potential to move up the global order.

## 2. Competitiveness

- Achieving a higher share in exports and FDI needs to be oriented with a push for greater global competitiveness.
- This requires **investment in infrastructure**, particularly in power and logistics, and reducing the regulatory compliance burden on companies.
- The emerging shifts in global value chains(GVC) provide India a significant opportunity to attract multinational companies. Therefore, sustained efforts are needed to build technical capacities and scale of Indian enterprises for enhancing participation in GVCs
- It will also be crucial to **embrace Industry 4** with greater adoption of frontier technologies by the Indian industry.

## 3. Currency

- Finally, thrust on expanding trade and investment can be supplemented with promoting greater use of rupee in international settlements to be more resilient to external shocks and currency risks.
- India needs to take a leaf from China’s playbook on **currency internationalisation**.
- In 2019, the cross-border RMB settlement amounted to RMB 19.7 trillion (\$2.8 trillion), accounting for 38.1% of China’s total cross-border settlement. On trade, cross-border settlement reached RMB 5.2 trillion (\$745 billion) with a share of 15% in China’s total trade.
- From India’s standpoint, steps can be taken to enhance trade settlement in rupee in a two-pronged process:
  - (i) **Regionalisation**—strengthening the mechanism already existing with Nepal and Bhutan and extending to other major countries in the region, and
  - (ii) **Internationalisation**—involving key partner countries globally.
- A broad-based push to currency internationalisation and greater global acceptability of rupee can come from setting a goal to be the next currency for **inclusion in IMF’s SDR basket**.

## Conclusion

To conclude, linking the vision of Aatmanirbhar Bharat with global strategic priorities of enhancing 3Cs—commerce, competitiveness & currency internationalisation can be a cornerstone to strengthen India’s position in the post-pandemic new world order.

## Urban Local bodies (ULBs) & Municipal Bonds

**Context:** The inability of urban local bodies (ULBs) to raise resources has limited the growth of municipal income and led to a fiscal crisis.

### **What are the key financial issues plaguing ULBs?**

- **Decline in Municipal Revenue:** Although it is envisaged that municipal revenue should be 1% of GDP, between 2010 and 2018 revenues declined from 0.48% to 0.43%. This reduction came on the back of a decline in own-source revenue from 56 to 44%.
- **Delay in Salaries:** Low municipal incomes affects the low-levels of municipal services and translates into salary delays for employees.

- **Low Property Tax Collection:** Property taxes only account for 0.15% of GDP, whereas in developing economies they account for 0.6% and the global average is 1.04%.

#### Way Ahead

- **Property tax base needs to be expanded** using GIS mapping, cross-checking with building licenses, ration cards, mutations, electricity/gas accounts, and review of exemptions. This also needs to cover government properties as per Gol circular 2009 and the SC judgement in Rajkot Corporation vs Railways.
- **The value capture taxes** need to include upward revision of building license fee and new sources like impact fee, as imposed in Telangana, exactions and betterment levy like the one imposed in Gujarat.
- **Local fee/charges** - An advertisement fee needs to be levied as there are large number of Unauthorized boards. Recovery on user charges (water, etc) which is only 20%, Right of way from gas/electricity and fibre optic lines, Cell tower, Leasing electricity poles and giving maintenance of parks to RWAs.
- **Potential of participatory funding** (private sector, CSR and local community) needs to be tapped as has been done by Bengaluru, Ahmedabad, Mathura (Hybrid Annuity project), Indore and Pune.
- **Article 243X needs suitable revision** to allow larger inclusion of fiscal instruments above within the scope of a municipality's own sources.
- **Municipal Bonds** can be tapped into by ULBs to raise their revenues and reduce the dependence on Government support.

#### What is Municipal Bond?

- **A municipal bond is a kind of debt instrument** where investors offer loans to local governments. They are issued by civic bodies for specific projects and usually have a 10-year tenure. The ULB pays the annual interest on the bonds to the investor at the decided rate
- **Benefits of Municipal Bonds:** The bond helps raise funds from the stock market. The bond also increases the number of investors available to the civic body, as compared to a loan from a single bank. Bonds help ensure improved credit profiles, direct transfer of funds by the Centre, transparency and efficient revenue generation
- **Support from Centre:** Under AMRUT (ULBs) are encouraged to tap the bond market. Union government also pays ULBs Rs 13 crore for every Rs 100 crore raised via bonds, subject to a ceiling of Rs 26 crore for each. According to the Ministry of Housing and Urban Affairs, in 2018-19, eight ULBs issued bonds and were incentivised with Rs 181.33 crore by the ministry
- **The difference between a bank loan and a municipal bond** is that any institution can secure a bond only if it has favourable credit ratings. The interest rates for the bond is usually market determined, where Bank Loans are much more opaque and politicised in nature
- **Fair Process:** The bidding for Bonds takes place on an electronic trading platform after the bond is listed on the exchange. The bidding is open to all investors and is facilitated by the transaction agent appointed by the ULB, who usually gets a commission of 0.10% after the money is transferred to the account of the ULB.
- There could be a single investor as in the case of Ahmedabad and Surat, where Gujarat State Financial Services (GSFS) picked the entire bond of Rs 200 crore each, or there could be multiple investors, who can bid for any number of slots having a value of Rs 10 lakhs each

#### Value Addition



- Ahmedabad was the first city in south Asia to launch a municipal bond of Rs 100 crore in 1998, which was completely subscribed.
- Surat Municipal Corporation was the second city in Gujarat to announce bonds in 2018, to fund a sewage treatment project worth Rs 450 crore
- Vadodara Municipal Corporation (VMC) is expected to launch municipal bonds in January, and will become the third Urban Local Body (ULB) in Gujarat to use this method to raise money to fund development work sanctioned under [AMRUT](#) Scheme.

## [Government introduces mandatory physical verification of business premises for GST registration](#)

**Part of:** GS Prelims and GS-III – GST; Taxation  
**In news**

- The government has introduced mandatory physical verification of business premises for the purposes of obtaining GST registration.

### **Key takeaways**

- The move is aimed at controlling the menace of GST fake invoice frauds.
- **Recommended by:** GST Council's law committee.
- Separately, a new rule has been introduced by the Central Board of Indirect Taxes and Customs that mandates businesses with monthly turnover of over ₹50 lakh to pay at least 1% of their GST liability in cash instead of using input tax credits to discharge their entire liability.
- The validity of e-way bills has also been changed, doubling the distance to be covered for each day of validity, effective January 1.
- Till now, an e-way bill for transporting goods under GST allowed transporters to cover 100 km in one day.
- Now, that distance for each day of validity has been increased to 200 km.

### **Related articles:**

- GST compensation: [Click here](#)
- Global energy companies demand Natural Gas under GST regime: [Click here](#)
- CAG report on GST: [Click here](#)

## [1000-yrs Old Monpa Handmade Paper Industry brought alive in AP](#)

**Part of:** GS Prelims and GS-III – Policies and Interventions  
**In news**

- The 1000-year old heritage art – the Monpa Handmade Paper of Arunachal Pradesh – which was driven to the extinction has been revived with the committed efforts of Khadi and Village Industries Commission (KVIC).

### **Key takeaways**

- The art of making Monpa handmade paper originated over 1000 years ago.
- This handmade paper was a major source of livelihood for the locals.
- However, the handmade paper industry almost disappeared in the last 100 years.

- Recently, KVIC commissioned a Monpa handmade paper making unit in Tawang which aims at reviving the art and engaging the local youths with this art professionally and earn.
- The Monpa handmade paper, will be made from the bark of a local tree called Shugu Sheng, which has medicinal values too. Hence availability of raw material will not be a problem.

#### Do you know?

- The fine-textured handmade paper, which is called Mon Shugu in the local dialect, is integral to the vibrant culture of the local tribes in Tawang.
- The paper has great historic and religious significance as it is the paper used for writing Buddhist scriptures and hymns in monasteries.
- Apart from handmade paper, Tawang is known for two other local crafts – handmade pottery and handmade furniture – that are also getting extinct with passage of time.
- It was announced that within six months, plans will be rolled out for revival of these two local arts

#### Important value additions

##### The Khadi and Village Industries Commission (KVIC)

- It is a statutory body formed in April 1957 (as per an RTI) by the Government of India, under the Act of Parliament, 'Khadi and Village Industries Commission Act of 1956'.
- It is an apex organisation under the Ministry of Micro, Small and Medium Enterprises.
- **Vision** – To plan, promote, facilitate, organise and assist in the establishment and development of khadi and village industries in the rural areas in coordination with other agencies engaged in rural development wherever necessary.
- In April 1957, it took over the work of former All India Khadi and Village Industries Board.
- **Head office:** Mumbai
- **Six zonal offices:** Delhi, Bhopal, Bangalore, Kolkata, Mumbai and Guwahati.

#### [Inflation Target at 4% is appropriate for India: RBI](#)

**Part of:** GS Prelims and GS-III – Economy

#### In news

- Recently, a working paper titled “Measuring Trend Inflation in India” was released by RBI.
- According to the paper, maintaining the inflation target at 4% is appropriate for India.

#### Key takeaways

- The paper seeks to estimate trend inflation in India.
- The 4% target for inflation — with an upper tolerance limit of 6% and a lower limit of 2% — was set by the Centre in consultation with the RBI in 2016 and its validity expires on March 31, 2021.
- The paper finds a steady decline in trend inflation to 4.1- 4.3% since 2014.
- A target set too below the trend imparts a deflationary bias to monetary policy.
- Similarly, a target that is fixed above the trend renders monetary policy too expansionary and prone to inflationary shocks.
- Hence, maintaining the inflation target at 4% is appropriate for India.

## Zero Coupon bonds to recapitalise Punjab & Sind Bank

**Part of:** GS Prelims and GS-III – Economy

### **In news**

- The government has used financial innovation of zero coupon bonds to recapitalise Punjab & Sind Bank by issuing the lender Rs 5,500-crore worth of non-interest bearing bonds.

### **Key takeaways**

- These are special types of zero coupon bonds issued by the government after proper due diligence and these are issued at par.
- These bonds are not tradable.
- The lender has kept them in the Held-To-Maturity (HTM) bucket, not requiring it to book any mark-to-market gains or losses from these bonds.
- Though these will earn no interest for the subscriber, market participants term it both a 'financial illusion' and 'great innovation' by the government where it is using Rs 100 to create an impact of Rs 200 in the economy.
- These bonds have a maturity of 10-15 years and issued specifically to Punjab & Sind Bank.

### **How do they differ from zero coupon bonds issued by private firms?**

- These bonds are different from traditional zero coupon bonds on one account — as they are being issued at par, there is no interest.
- In previous cases, since they were issued at discount, they technically were interest bearing.
- Zero coupon bonds by private companies are normally issued at discount, but since these special bonds are not tradable these can be issued at par.

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## Resilient Supply Chains

**Context:** Pandemic Lesson - importance of creating resilient supply chains that can withstand disruptions and ensure reliability for the global economy.

### **India - Issues**

- When the pandemic broke out, it had an immediate effect on supply chains emanating from China.
- In India, several companies felt the disruption in the automotive, electronics and white goods sectors.
- India excels in the pharmaceuticals sector but the over-reliance on Active Pharmaceutical Ingredients (APIs) from China still creates vulnerabilities in the value chain.
- Despite being the fourth largest market in Asia for medical devices, India has an import dependency of 80%. Among the biggest exporters to India in this field are China, the U.S., Germany, Singapore and Japan.

- India imports 27% of its requirement of automotive parts from China.

### Supply Chain Resilience Initiative (SCRI)

- It is in this context that India, Japan and Australia initiated the Supply Chain Resilience Initiative (SCRI) focusing on automobiles and parts, petroleum, steel, textiles, financial services and IT sectors.
- The SCRI may be bolstered by the future involvement of France, though this might depend on the European Union's position.
- The United Kingdom has also shown interest in the SCRI.

### Atmanirbhar Bharat

- It is aimed at strengthening India's capacities to participate more vigorously without being prey to supply chain disruptions.
- GoI is providing a big boost to defence manufacturing under the 'Make in India' programme. It has identified a negative import list of 101 items.
- India is seeking to enhance its presence substantially in the global supply chains by attracting investments in the semiconductor components and packaging industry.
- The government is actively promoting domestic manufacture of printed circuit boards (PCBs), components and semiconductors, as the Indian electronics sector gradually shifts away from completely knocked down (CKD) assembly to high value addition.
- India has the capacity and the potential to become one of the world's largest destinations for investments, and one of the world's largest manufacturing hubs, in the aftermath of the pandemic.



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## AGRICULTURE

### Honey FPO Programme inaugurated under NAFED

**Part of:** GS Prelims and GS-III – Agriculture

**In news**

- Recently, the Honey Farmer Producer Organisation (FPO) Programme of the National Agricultural Cooperative Marketing Federation of India Limited (NAFED) was virtually inaugurated.
- **Inaugurated by:** Ministry of Agriculture and Farmers' Welfare.

**Key takeaways**

- The programme has been launched under the Formation and Promotion of FPOs.
- It is a new Central Sector Scheme for the promotion of 10,000 new FPOs.
- Under it, the National Level Project Management Advisory and Fund Sanctioning Committee (N-PMAFSC) had allocated FPO clusters for 2020-21 to all implementing agencies.
- FPOs will be developed by specialist Cluster Based Business Organizations (CBBOs) engaged by implementing agencies.
- NAFED has initiated the formation and promotion of FPOs of beekeepers and honey collectors in 5 states of India.
- **5 locations:** East Champaran (Bihar), Morena (Madhya Pradesh), Bharatpur (Rajasthan), Mathura (Uttar Pradesh) and Sunderbans (West Bengal).
- The first Honey FPO has been registered in the state of Madhya Pradesh.
- Benefits: (1) Skill Upgradation in scientific beekeeping; (2) State of the art infrastructural facilities for processing honey and allied beekeeping products; (3) Quality upgradation by quality control laboratories; (4) Better supply chain management

**Important value addition**

**National Agricultural Cooperative Marketing Federation of India Ltd (NAFED)**

- It is an apex organization of marketing cooperatives for agricultural produce in India.
- It was founded on 2nd October 1958.
- It is registered under the Multi-State Co-operative Societies Act, 2002.
- NAFED is now one of the largest procurement as well as marketing agencies for agricultural products in India.
- Objectives: (1) To organize, promote and develop marketing, processing and storage of agricultural, horticultural and forest produce; (2) To distribute agricultural machinery, implements and other inputs; (3) To act and assist for technical advice in agricultural production

**Do you know?**

- Apiculture or beekeeping is the care and management of honey bees for the production of honey and wax.
- In this method, bees are bred commercially in apiaries, an area where a lot of beehives can be placed.

## Dilli Chalo Farmers Protest: The perils of deregulated imperfect agrimarkets

**Context:** Farmers from Punjab, Haryana and other states are protesting at the gates of Delhi seeking repeal of the [new farm laws](#).

### **Brief Background of the protests**

- The [new farm bills](#) will enable, according to the government, many private markets to be established and middlemen to disappear. Thus, farmers would be free to sell to any buyer and farmgate prices would rise.
- But the protesting farmers do not accept these claims.
- They believe that farmgate prices would fall with the intensification of a corporate presence in agricultural markets. They also believe that the government, ultimately, wants to phase out the Minimum Support Price (MSP) system

Let us look at the major claims and their merits with focus on Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020 (FPTC Act).

### **1. Monopoly of Mandis over farmer produce**

- An important assumption behind the FPTC Act is that *mandis* controlled by Agricultural Produce Marketing Committees (APMC) are monopsonies in rural areas
- This assumption itself is specious.
- First, official data show that even for paddy and wheat, respectively, only 29% and 44% of the harvest is sold in a *mandi*, while 49% and 36% is sold to either a local private trader or an input dealer.
- There are only 6,630 mandis in 2019 with an average area served of 463 km<sup>2</sup>. The National Commission on Agriculture (NCA) had recommended 41,000 mandis serving 80 km<sup>2</sup> so that every Indian farmer should be able to reach a *mandi* in one hour by a cart. Thus, **India needs not less but more *mandis***.
- Additionally, most small and marginal farmers, given their small marketable surplus, **do not find it economical to bear the transport costs** to take their harvests to *mandis*. Thus, they end up selling their harvest to a village trader even if at a lower price.
- In other words, *de facto*, a large proportion of Indian harvest is not directly sold in a *mandi* due to structural reasons - less mandis & high cost- and not due to exploitation by APMC Mandis
- Therefore, the argument that APMC mandis have monopoly over farmer's produce is wrong one.

### **2. Presence of Private Players will improve market efficiency**

- De jure, the freedom to sell outside *mandis* already exists in many States.
- Already, 18 States have allowed the establishment of private markets outside the APMC; 19 States have allowed the direct purchase of agricultural produce from farmers; and 13 States have allowed the establishment of farmer's markets outside the APMC.
- Despite such legislative changes, **no significant private investment has flowed in to establish private markets** in these States.
- Private markets have emerged in some pockets for some crops, but these are by no means widespread.
- The reason for poor private investment in markets is the presence of high transaction costs in produce collection and aggregation (cost incurred in opening centres of collection, salaries, grading, storage etc)

- The more the number of small and marginal farmers are, the higher will these costs be. This is why many retail chains prefer purchasing bulk quantities of fruits and vegetables from *mandis* rather than directly from farmers.

### 3. Taxes in mandis are wasteful

- It is being argued by many that taxes in mandis are wasteful and thus the elimination of mandi tax (by new FPTC Act) will help farmers get better price.
- Even if private markets emerge, the size of transaction costs are likely to offset any decline in *mandi* taxes. As a result, there is no assurance that farmers would receive a higher price in private markets
- Mandi taxes are wasteful is not fully true. Much of the *mandi* taxes are reinvested by APMCs to improve market infrastructure and rural infrastructure.
- Such rural investments will also be adversely affected if *mandis* are weakened.

### What is the farmer's fear with regard to MSP?

- The core demand of farmer groups protesting is to safeguard the mechanism of MSP which they fear will be weakened by new farm bills. They are demanding for a legal right to MSP
- Without doubt, MSPs would continue to survive on paper as the government will have to procure to maintain a minimum buffer stock. However, many policy signals point to a strategic design to weaken the MSPs
  - MSPs are rising at a far slower rate over the past five to six years than in the past
  - The government has not yet agreed to fix MSPs at 50% above the C2 cost of production leading to price loss of ₹200 to ₹500 per quintal in many crops
  - Recommendation of CACP to stop open-ended procurement of food grains
- In Punjab, Haryana and western Uttar Pradesh, most crop sales are at the MSP through procurement centres including the *mandis*.
- If *mandis* weaken and private markets do not sufficiently replace them, they fear that the void would be filled by unscrupulous and unregulated traders.

### What Steps needs to be taken?

Discussions between the government and the farmers can be structured using a broad framework based on two focus points.

- First, India needs an increase in the density of *mandis*, expansion of investment in *mandi* infrastructure and a spread of the MSP system to more regions and crops.
- Second, we need not just more *mandis*, but also better *mandis*. APMCs need internal reform to ease the entry of new players, reduce trader collusion and link them up with national e-trading platforms
- The introduction of unified national licences for traders and a single point levy of market fees are also steps in the right direction.

### Conclusion

The Farm Acts were legislative measures that were passed without elaborate discussion with stakeholders. Thus, government has to take steps to address the genuine fears of farmers.

### [Kiwis Of Ziro Valley](#)

Part of: GS Prelims and GS-III – Agriculture

**In news**

- The kiwis that grow wild in Arunachal Pradesh's Ziro Valley are the only certified organic fruit of their kind in India.
- Arunachal Pradesh is the first State in India to obtain Organic Certification for Kiwi under Mission Organic Value Chain Development for North East Region (MOVCD-NER).
- Ziro Valley is located in Lower Subansiri district.

**Important value addition****Mission Organic Value Chain Development for North East Region (MOVCD-NER)**

- It is a Central Sector Scheme.
- It is a sub-mission under National Mission for Sustainable Agriculture (NMSA).
- **Launched by:** Ministry of Agriculture and Farmers Welfare
- **Implementation in:** Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura,

**Do you know?**

- An agricultural practice/product is considered organic when there are no chemical fertilisers or pesticides involved in its cultivation process.
- Such certifications in India can be obtained after strict scientific assessment done by the regulatory body, Agricultural and Processed Food Products Export Development Authority (APEDA).

**Policy Making and Farm Protests**

**Context:** Need to have detailed discussions and consultations while making law and policy.

**Issues**

- Discontent over the new farm laws is a result of sidestepping debate and discussion in Parliament.
- [The Bills](#) were initially enacted through ordinances.
- The Bills to replace the ordinance were introduced in Lok Sabha and passed within three days without being referred to a Standing Committee.



- While the jurisdiction of Parliament to enact these laws seems to be clear, they affect agricultural markets, which are governed by State laws.
- It was important to address the concerns of various stakeholders, including farmers and State governments.
- The absence of proactive engagement with affected parties has led to the current crisis.

### Discussions & Consultations

- The process of building consensus and addressing concerns may be time-consuming, but it leads to greater acceptance of policy objectives.
- Parliament is perhaps the most important forum for this.
- It has a well-established process to get inputs of experts and stakeholders, and to build cross-party consensus while enacting a law.
- This is usually done through its committees.
- The government can also use other consultative mechanisms, such as expert committees and consultative groups, to get feedback and tailor policy.
- Parliamentary committees perform a very important role in the lawmaking process.
- These committees have helped negotiate a path through conflicting interests.

### Way Ahead

- Stable policy-making needs a broad agreement on the benefits of the policy. Such consensus has to be built through conversations with stakeholders.
- Parliament should revitalise its committees to enable wider public participation.
- It should insist that every Bill is deliberated upon in a committee, much like what the British Parliament does.
- Parliament needs to perform its function as a deliberative body that enables compromises to assuage concerns.

## Punjab & Haryana farmers' protests, the core is procurement

**Context:** The Farmers' protests have erupted once again in north India primarily in opposition to the new [farm acts](#)

### What are the farmer's concern?

- Their main worry is about a **possible withdrawal of [the Minimum Support Price \(MSP\)](#)** and a dismantling of the public procurement of grains.
- They also contend that by leaving farmers to the mercy of the open market, the stage has been set for large private players to take over agriculture.
- The farmers' unions want nothing short of a complete withdrawal of the [recently enacted Farm Acts](#), which they claim will ruin small and marginal farmers.
- It needs to be noted that the protests are largely in the States of Punjab and Haryana.

### What is government's contention?

- The government claims that the Acts will only increase options for farmers in the output markets, that the MSP-procurement system will continue, and that there is absolutely no plan to dismantle the system.
- To support its claims, the government points to the fact that there is absolutely no mention of either MSP or procurement in the Acts.

- It is true that a large-scale public procurement of paddy is going on in Punjab as the protests are raging, thus assuaging the fears of farmers in the region.

#### **Why are farmers primarily from Punjab & Haryana are protesting vociferously?**

- The Public Distribution System (**PDS**) is the lifeline in these States. Farmers in Punjab and Haryana are heavily dependent on public procurement and assured price through MSP.
- This is far greater than farmers in any other State.
- Nearly 88% of the paddy production and 70% of the wheat production in Punjab and Haryana (in 2017-18 and 2018-19) has been absorbed through public procurement.
- In contrast, in the other major paddy States such as Andhra Pradesh, Telangana, Odisha and Uttar Pradesh, only 44% of the rice production is procured by public agencies.
- In the case of wheat, this percentage is even lower. In the major wheat States of Madhya Pradesh and Uttar Pradesh, only a quarter (23%) of the production is procured by public agencies
- This clearly shows the heavy dependence of farmers in Punjab and Haryana on MSP and the public procurement system. Therefore, any disruption to the system, real or perceived, will cause a major upheaval

#### **What are Government's obligation with regard to Food Security of Nation?**

- **Obligation under NFSA:** If farmers of Punjab and Haryana need the procurement system, the government needs it even more. This is because of its obligations under the PDS and the National Food Security Act (NFSA) that is a legal and rights-based entitlement.
- **Large Number of people to be supported by PDS:** There are nearly 80 crore NFSA beneficiaries and an additional eight crore migrants who need to be supported under the PDS. The government needs an uninterrupted supply of grain, particularly from these two States, to maintain the PDS.
- **Procurement is needed to supply PDS:** In the last three years, nearly 40% of the total paddy production in the country (45 million tons) and 32% of wheat production (34 million tons) has been procured by public agencies to supply the PDS.
- **Impact of Pandemic:** This year, due to the onset of the novel coronavirus pandemic and the migrant crisis, the government has earmarked much larger quantities for public distribution — about 58 million tons of rice and 37 million tons of wheat. This translates into nearly half of the rice production (49%) and 35% of the wheat production in the country.
- **Open Market Procurement is not feasible:** Due to Pandemic, government needs to procure a huge quantum of grains than in previous years as the government cannot afford to go to the open market. That is a sure recipe for disaster as prices will skyrocket, and with the stock restrictions gone under the recent Essential Commodities Act Amendment, there is a possibility of large-scale hoarding too.

#### **Why these States matter for government?**

- If the government intends to procure such huge quantities of grains, then it needs to turn to these two States, because it is these States that have always been in the forefront in supplying grains to procurement agencies.
- Nearly 35% of the rice and 62% of the wheat procured in the last three years has been from these States. Also, nearly 50% of the total coarse grains came from these two States.

- Thus, the government has little option but to continue its procurement from these States in the foreseeable future. Even after the COVID-19 situation improves and the migrant crisis abates, the obligations under the NFSA will continue.

### Way Ahead

- **Engage with Protestors:** It is clear that dismantling the procurement system is neither in the interests of farmers nor the government. Therefore, it is imperative that the government reaches out to the farmer groups and assures them of the indispensability of MSP-procurement system.
- **Diversify Procurement:** The government has to diversify its procurement away from two States of Punjab & Haryana
- **Build Consensus:** The severe trust deficit that resulted from the way the Farm Bills have been rushed through needs to be addressed by adopting a conciliatory approach towards farmers and the States.

### Farmer's Protest: Remunerative Cropping Patterns needed

**Context:** The Farmers' protests have erupted once again in north India primarily in opposition to the new [farm acts](#), who have been demanding the complete repeal of the laws.

The flashpoint between the agitating farmers and the central government is essentially rooted in the **mismatch between the supply and demand for the wheat crop** in India.

### Genesis of the problem

- **Food Insecurity during Independence:** The genesis of the current state of affairs stems from policies initiated over half a century ago when India was critically short in foodgrains and had to rely upon imports under PL-480 as aid from the US.
- **Setting of PDS to ensure food grain availability:** India set up a massive Public Distribution System (PDS) for supplying wheat (and later rice) to people by issuing ration cards that entitled them to a fixed quantum at controlled prices.
- **Green Revolution mainly in Punjab & Haryana:** Concurrently, high yielding varieties of seeds were produced and popularised by the state agencies along with pushing the use of tube wells and fertilisers with subsidies for electricity and some fertilisers.
- **Disproportionate buying from Punjab & Haryana:** To feed the PDS, potential surplus producing states (notably, Punjab and Haryana) were cordoned off from the rest of the country under a quasi monopolistic buying by the central government through the Food Corporation of India (FCI) at a farmer remunerative price, labelled as the minimum support price (MSP).
- **The result was a resounding success** for the production and procurement of rice (common varieties) and wheat. India has become consistently surplus in their production, which was the focus of the PDS and government policy.
- **Fear of Private Players:** Currently, the so-called support price is politically influenced. With the advent of large corporate players, farmers apprehend that the corporate players will influence the government not to raise the MSPs adequately in their own interest.
- **Fear of reduced bargaining power of Farmers:** The farmer-state government-central government power equation is likely to be polarised into a farmer/state government versus corporate sector tussle, wherein the peasants' lobby will be hopelessly powerless.

**What is the scenario on the supply side?**

- On the supply side, crop rotations have changed in the surplus growing regions. Punjab and Haryana, for example, are now geared for a rice-wheat cycle with the wheat acreage in the former being well above 90 per cent of the total cultivable land in the rabi season.
- Correspondingly, rice accounts for 80 per cent of the total cultivable land in the kharif season, approximately one-fourth of this being under basmati rice.
- Controlled irrigation and general improvements in farming practices along with investments have made this rice-wheat rotation by far the most value creating crop cycle.
- Better varieties of rice (that is, superior basmati etc) in the kharif season that have lower yield, lower water and nutrient requirement but are exportable and highly priced, could possibly be better crop options in the region.

#### **Present Procurement Policy impaired the growth of exports**

- Under the current procurement policy, the **advantages of producing high-quality grains have been ignored.**
- Since the origin of the policy was to feed the PDS system in periods of shortages, the considerations of maximising yield and lowering cost of production dictated the production and procurement decisions.
- These, unfortunately, were **not the best products for export.**
- The critical concern about keeping prices low for the middle classes in India has, thus, impaired the healthy growth of the agriculture sector.
- Physical quotas and controls on exports came in the way of increasing production of basmati and higher quality of rice.
- Also, there was no initiative for identifying high-quality wheat strains for increasing their production for local and foreign markets

#### **Way Forward**

- The only way forward is to shift production from normal rice to basmati and other exportable varieties and to give a boost to wheat for **substituting rice via sooji, rava and noodles.**
- A **boost for infrastructure** to increase the production of vegetables in the wheat belt and its transport to southern India, the Middle East and the Far East are the other options for the healthy growth of agriculture.
- The government needs to **reduce the institutional costs** and move towards a more remunerative cropping pattern.
- The central government needs to be seen as the agency that will ensure stable and remunerative MSP for rice, wheat as also for the **prices of their superior variants** along with the alternate crops.
- Government must make **transparent efforts to push exports** consistently and not follow the stop-go policy emanating from price controls for the Indian consumer market.

### [Lakshadweep Declared an Organic Union Territory](#)

**Part of:** GS Prelims and GS-III – Agriculture

#### **In news**

- Entire Lakshadweep group of islands has been declared as an organic agricultural area under the Participatory Guarantee System (PGS) of India.
- Lakshadweep is the first Union Territory to become 100% organic as all farming is carried out without the use of synthetic fertilisers and pesticides.

### Important value addition

#### Lakshadweep

- It is India's smallest Union Territory.
- It is an archipelago consisting of 36 islands.
- There are three main group of islands: (1) Amindivi Islands; (2) Laccadive Islands; (3) Minicoy Island.
- All are tiny islands of coral origin (Atoll) and are surrounded by fringing reefs.

#### Participatory Guarantee System

- PGS is a process of certifying organic products, which ensures that their production takes place in accordance with laid-down quality standards.
- The certification is in the form of a documented logo or a statement.
- **Implemented by:** Ministry of Agriculture and Farmers' Welfare.
- It is only for farmers or communities that can organise and perform as a group within a village or a cluster of contiguous villages.
- It is applicable only to farm activities such as crop production, processing, and livestock rearing, and off-farm processing by PGS farmers of their direct products.

#### Do you know?

- Organic farming is a system of farm design and management to create an ecosystem of agriculture production without the use of synthetic external inputs such as chemical fertilisers, pesticides, etc.

### Farmer's Protest: Failed Negotiations

**Context:** The farmers' protest against the [new farm laws](#) has been continuing without any signs of abatement.

#### International Reaction to Farmer Protest

- Initially, Canadian Prime Minister Justin Trudeau expressed sympathy with the Punjab farmers
- Comment by Stéphane Dujarric, Spokesperson for the Secretary General of the United Nations that "people have a right to demonstrate peacefully, and authorities need to let them do so".

#### What are the major concerns of farmers and how is government negotiating it?

##### 1. Fear of erosion of MSP

- The core demand of farmer groups protesting is to safeguard the mechanism of MSP which they fear will be weakened by new farm bills. They are demanding for a legal right to MSP
- The government has repeatedly assured that the laws would make no changes to the MSP system, but the farmers fear these will effectively lead to abolition of the prevailing arrangement, which offers them a modicum of security.
- **Government Offer:** The Central government has agreed to give a written assurance regarding the existing MSP-based procurement system. However, it is not clear whether the written assurance will be provided through an amendment or an executive order.

##### 2. Taxation in Trade Areas

- Presently, all purchases of paddy and wheat undertaken through government-regulated mandis in Punjab currently attract 3 per cent APMC market fee and 3 per cent rural development cess. In Haryana, the same levies amount to 2 per cent each.

- Section 6 of the FPTC Act, 2020, prohibits State governments from collecting market fee, cess or levy for trade outside the APMC market
- The farmers have been saying that the absence of such a fee would encourage trade outside mandis, eventually rendering APMC Mandis insignificant.
- **Government Offer:** By amending the new Act, it can be provided that the state government can implement the system of registration of private mandis. Also, the state government can fix the rate of cess / fee, to be collected from such trade areas, up to the rate of cess / fee applicable to the existing APMC mandis

### 3. Court process

- The new Farm Acts put a bar on jurisdiction of civil courts and say disputes have to be referred to conciliation boards and appellate authorities, appointed by the local sub-divisional magistrates and district collectors.
- **Government Offer:** If any dispute arises under the new farm laws, farmers can be allowed to approach civil court

### 4. Other Issues

- Farmers also withdrawal of the [Electricity \(Amendment\) Bill, 2020](#); withdrawal of cases registered against activists and protesters; and implementation of Swaminathan Commission report to fix MSP with C2+50 percent formulae.
- **Other assurances made by the Centre** include resolution of grievances related to a new air quality management ordinance, which calls for steep penalty in case of stubble burning. Union Government has also said that the existing arrangement on subsidy on electricity usage by farmers will not be modified.

#### Have the farmers accepted government offer?

- No. Protesting Farmer groups have rejected the offers made by Union Government and has stuck to their demand of complete repeal of new Farm Acts.

### [MSP — the factoids versus the facts](#)

**Context:** After the passage of the [three controversial farm laws](#), the Minimum Support Price ([MSP](#)) — not mentioned in the laws — has gained a lot of attention.

#### What is Minimum Support Price (MSP)?

- MSP is the price set by the government to purchase crops from the farmers, whatever may be the market price for the crops.
- The MSP is meant to set a floor below which prices do not fall, and is announced by the government for 23 commodities. It is the price at which the government 'promises' to buy from farmers if market prices fall below it.
- MSP is declared by Cabinet Committee on Economic Affairs before the sowing time on the basis of the recommendations of the **Commission for Agricultural Costs and Prices (CACP)**
- Support prices generally affect farmers' decisions indirectly, regarding land allocation to crops, quantity of the crops to be produced etc
- MSP assures farmers agricultural income besides providing a clear price signal to the market
- The major objectives are to support the farmers from distress sales and to procure food grains for public distribution.

### Do You Know?

- Even for commodities for which MSP is announced, the proportion of sales via the *mandi* range is only between 10-64%
- The demand for the MSP originates because the prices paid outside the *mandi* tend to be much lower. Countrywide, sales to *mandi* or government procurement agencies fetched on average 13.3% higher prices for paddy and 5.8% for wheat.

### What are some of the misconceptions regarding MSP and arguments against it?

#### 1. Few (6%) farmers benefit

- One, the 6% figure from the NSS data 2012-13 relates to paddy and wheat alone. Even here, however, among those who sold any paddy/wheat, the numbers are higher — 14% and 16%

#### 2. Only farmers of Punjab and Haryana (to some extent, western UP) benefit.

- The Government of India has made a systematic effort to expand the reach of MSP to more States, via the **Decentralized Procurement (DCP) Scheme**.
- Introduced in 1997-98, it was not very popular in the initial years and began to be adopted by States in earnest only around 2005.
- Under the DCP scheme, the responsibility of procurement devolved to the State governments which were reimbursed pre-approved costs.
- FCI data suggest that by July 2015, as many as 15 States had taken up this programme, though not all were implementing it with equal enthusiasm.
- Largely on account of it, procurement began moving out of 'traditional' States (such as Punjab, Haryana, western Uttar Pradesh).
- Until 2000, barely 10% of wheat and rice was procured outside the traditional States. By 2012-13, the share of the **DCP States rose to 25-35%**.
- Chhattisgarh and Odisha contribute about 10% each to the total paddy procurement in the country. For wheat, decentralised procurement has taken off in Madhya Pradesh in a big way, accounting for approximately 20% of wheat procurement.

#### 3. Only large farmers benefit

- Procurement has benefited the small and marginal farmers in much bigger numbers than medium and large farmers.
- At the all-India level, among those who sold paddy to the government, 1% were large farmers, owning over 10 hectares of land.
- Small and marginal farmers, with less than 2 hectares accounted for 70%. The rest (29%) were medium farmers (2-10 hectares).
- In the case of wheat, 3% of all wheat-selling farmers were large farmers. More than half (56%) were small and marginal farmers.
- In Madhya Pradesh, nearly half (45%) of those who sell wheat to government agencies are small or marginal farmers.

### Conclusion

Getting the facts right is an important first step in resolving the issues facing the agricultural sector and farmers' issues. To recap, the facts are as follows:

- One, the proportion of farmers who benefit from (even flawed) government procurement policies is not insignificant.
  - Two, the geography of procurement has changed in the past 15 years. It is less concentrated in traditional States such as Punjab, Haryana and western Uttar Pradesh, as DCP States such as Chhattisgarh, Madhya Pradesh and Odisha have started participating more vigorously.
  - Three, perhaps most importantly — it is predominantly the small and marginal farmers who have benefited from the MSP and procurement
- 

## [100th Kisan Rail flagged off recently](#)

**Part of:** GS Prelims and GS-III – Infrastructure

### **In news**

- Prime Minister flagged off the 100th Kisan Rail train, which shall ply between Devlali and Danapur.
- It has now been extended to run between Sangola to Muzaffarpur.

### **Important value additions**

- The Kisan Rail train carries vegetables and fruits like grapes, oranges, pomegranate, etc.
- The loading and unloading of perishable commodities will be permitted at all en route stoppages and there is no minimum or maximum size of consignment.
- The government has extended a subsidy of 50% on transportation of fruits and vegetables.
- The multi-commodity train service has been popular as it also carries relatively small quantities of produce brought in by small, individual farmers.

### **Progress**

- So far, the Kisan Rail has run regularly on 10 routes.
  - One route — between Yeshvantpur and Delhi — exhausted its seasonal demand a while ago.
  - Kisan Rail trains have ferried around 27,000 tonnes of produce so far, and half of the trips made so far were by trains running between Devlali in Maharashtra and Danapur in Bihar.
-



## ENVIRONMENT/POLLUTION

### Apex Committee For Implementation Of Paris Agreement (AIPA) constituted

**Part of:** GS Prelims and GS-III – Environment

**In news**

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has constituted a high-level inter-ministerial Apex Committee for Implementation of Paris Agreement (AIPA) under the chairmanship of Secretary, MoEFCC.

**Key takeaways**

- **Purpose:** To generate a coordinated response on climate change matters that ensures India is on track towards meeting its obligations under the Paris Agreement including its Nationally Determined Contributions (NDC).
- Senior officials from fourteen ministries will serve as Members to AIPA who will oversee the progress in implementation of India's NDC
- **Key functions:** (1) Operate as a National Authority to regulate carbon markets in India under Article 6 of the Paris Agreement; (2) Formulate guidelines for consideration of projects or activities under Article 6; (3) Issue guidelines on carbon pricing, market mechanism, and other similar instruments that have a bearing on climate change and NDCs.

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### Indian Peacock Softshell Turtle rescued

**Part of:** GS Prelims and GS-III – Biodiversity

**In news**

- Indian peacock softshell turtle, a turtle of a vulnerable species was rescued from a fish market in Assam's Silchar.



#### Important value addition

- The Indian peacock softshell turtle [*Nilssonina hurum*] is a species of turtle found in South Asia.
- **IUCN Red list status:** Vulnerable species.
- Schedule I species in the Indian Wildlife Protection Act, 1972
- This species is confined to India, Bangladesh and Pakistan.
- In India, it is widespread in the northern and central parts of the Indian subcontinent.
- These are found in rivers, streams, lakes and ponds with mud or sand bottoms.
- Major Threats: (1) Heavily exploited for its meat and calipee; (2) Reduction of fish stock, due to overfishing, pollution, increase in river traffic, and sand-mining, among others.

#### Do you know?

- According to a report by Guwahati-based conservation NGO, Help Earth, 29 species of turtles have been recorded in India, out of which 20 are found in Assam.

#### [Malayan Giant Squirrel could decline by 90% in India by 2050: Zoological Survey of India \(ZSI\)](#)

**Part of:** GS Prelims and GS-III – Biodiversity

#### In news

- A recent study by the Zoological Survey of India (ZSI) has projected that numbers of the Malayan Giant Squirrel (*Ratufa bicolor*) could decline by 90% in India by 2050.
- **Ministry:** Ministry of Environment

#### Key takeaways

- According to the ZSI, destruction of its habitat could restrict the squirrel to only southern Sikkim and North Bengal by 2050,.
- Only 43.38% of the squirrel's original habitat in India is now favourable to it
- By 2050, the favourable zone could shrink to 2.94% of the area the species was meant to inhabit.



### Important value addition

- The Malayan Giant Squirrel is one of the world's largest squirrel species.
- It has a dark upper body, pale under parts, and a long, bushy tail.
- **IUCN Status:** Near Threatened
- It is protected under India's Wildlife Protection Act.
- **Found in India:** West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, and Nagaland.
- **Other Countries:** Southern China, Thailand, Laos, Vietnam, Burma, the Malayan Peninsula, Sumatra, and Java.
- It is found mostly in evergreen and semi-evergreen forests, from plains to hills at elevations of 50 m to 1,500 m above sea level.

### Do you know?

- India is home to three giant squirrel species.
- The other two – Indian Giant Squirrel and Grizzled Giant Squirrel – are found in peninsular India.
- Unlike the nocturnal flying squirrels, giant squirrels are diurnal, but arboreal (tree-dwelling) and herbivorous like the flying squirrels.

## Species in news: Houbara Bustards

**Part of:** GS Prelims and GS-III – Biodiversity

### **In news**

- Recently, houbara bustards was in the news.
- Pakistan has issued special permits to Saudi Crown Prince Mohammed bin Salman and two other members of the royal family to hunt the internationally protected houbara bustards during the hunting season 2020-21.

### **Important value addition**

#### **The houbara bustard**

- It lives in arid climates.
- It comes in two distinct species as recognised by the IUCN.
- One species resides in North Africa (*Chlamydotis undulata*) and the other in Asia (*Chlamydotis macqueenii*) which is commonly known as MacQueen's bustard.
- The population of the Asian houbara bustards extends from northeast Asia, across central Asia, the Middle East, and the Arabian Peninsula to reach the Sinai desert.
- According to the International Fund for Houbara Conservation (IFHC), roughly 33,000 Asian houbara bustards remain today.
- After breeding in the spring, the Asian bustards migrate south to spend the winter in Pakistan, the Arabian Peninsula and nearby Southwest Asia.
- Some Asian houbara bustards live and breed in the southern part of their ranges including parts of Iran, Pakistan and Turkmenistan.
- **IUCN Red List Status:** Vulnerable



### [Moolamyliang recovers from rat-hole mining](#)

**Part of:** GS Prelims and GS-I – Key natural resources & GS-III – Environment

#### **In news**

- Moolamyliang, a village in Meghalaya’s East Jaintia Hills district, is making progress in becoming a greener place amid abandoned pits from the rat-hole mining.

#### **Key takeaways**

- National Green Tribunal (NGT) banned hazardous rat-hole coal mining in Meghalaya in April 2014 and set a time limit for transporting the coal already mined till that time.
- The Jaintia Coal Miners and Dealers’ Association claims there are some 60,000 coal mines across 360 villages in East Jaintia Hills district.
- Moolamyliang used to be one such village until the National Green Tribunal’s ban.

#### **Do you know?**

- Rat-hole Mining is a term used for a hazardous and arduous mining technique where miners crawl into winding underground tunnels that are just 4-5 feet in diameter to extract coal from the deep seams with a pickaxe.



## [First eco-bridge for reptiles and smaller mammals in Uttarakhand](#)

**Part of:** GS Prelims and GS-III – Environment

**In news**

- Uttarakhand, recently built its first eco-bridge for reptiles and smaller mammals in Nainital district.

### **Important value addition**

- Eco-ducts or eco-bridges aim to enhance wildlife connectivity that can be disrupted because of highways or logging.
- **Eco-bridges include:** (1) Canopy bridges usually for monkeys, squirrels and other arboreal species); (2) Concrete underpasses or overpass tunnels or viaducts usually for larger animals; (3) Amphibian tunnels or culverts.
- Usually these bridges are overlaid with planting from the area to give it a contiguous look with the landscape.

**Related article:**

- Importance of Eco-bridge: [Click here](#)

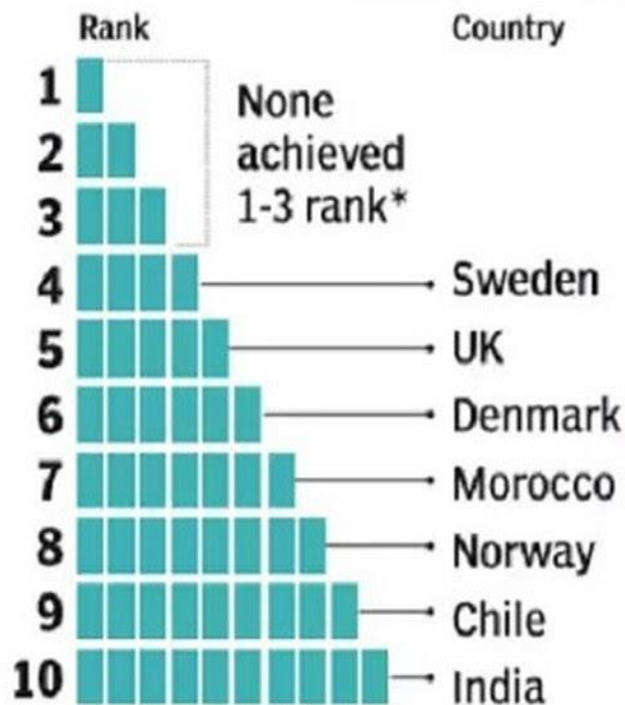
## [India in top 10 in Climate Change Performance Index \(CCPI\)](#)

**Part of:** GS Prelims and GS-III – Environment

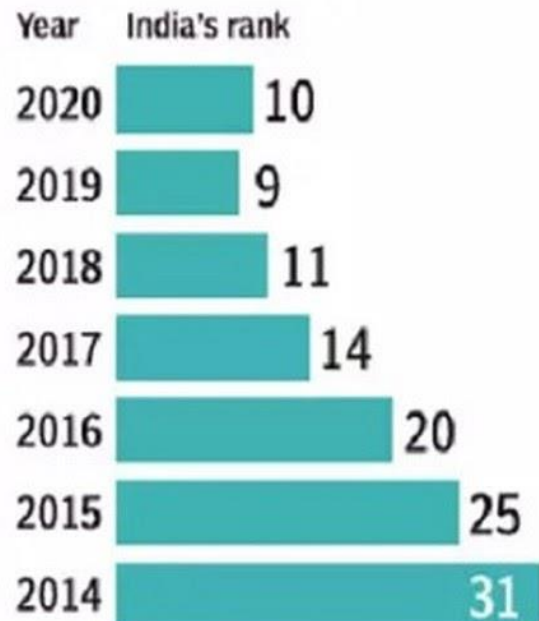
**In news**

- India remains in the top 10 for the second year in a row in the latest global Climate Change Performance Index (CCPI) released in Germany.

## Climate Change Performance Index (CCPI) Ranking 2020



### India's track record



\*No country performs well enough in all four categories to achieve perfect score on performance index

### Key takeaways

- China which is also the biggest current emitter of greenhouse gases (GHG) figures at 33rd rank.
- While the USA appears at the bottom of the list.
- Though India slid one position down from 9th in 2019 to 10th this year, its journey towards climate protection has been consistent with it improving its ranking from 31st in 2014.
- Globally none of the countries assessed for the annual CCPI report are on the path to meet their Paris Agreement commitment of keeping global warming increase below 2 degree Celsius by the end of the century and restrict it to 1.5 degree Celsius rise.
- The report shows that only two G20 countries - the UK and India - are among the high rankers.
- While six other G20 countries - the USA, Saudi Arabia, Canada, Australia, South Korea and Russia (52nd) – are at the bottom of the index.

### Do you know?

- The CCPI is developed by not-for-profit organisations Germanwatch and NewClimate Institute (Germany) together with the Climate Action Network (CAN International).
- It is an important tool to enhance transparency in international climate politics and enables comparison of climate protection efforts and progress made by individual countries.

- The latest list is prepared by assessing performances of 57 countries and European Union (as a whole) in four categories - GHG emissions (40%), renewable energy (20%), energy use (20%) and climate policy (20%).
- These 57 countries and the EU collectively are responsible for about 90% of global GHG emissions.

**Related article:**

- More about Climate Change Performance Index: [Click here](#)

**[New species of Indian Muraingrasses spotted by scientists in Goa](#)**

**Part of:** GS Prelims and GS-III – Environment

**In news**

- A new species of Indian Muraingrasses (Genus *Ischaemum*) have been spotted by scientists in Goa in the Western Ghats.
- It is known for their ecological and economic importance, such as fodder.

**Key takeaways**

- The discovered novel species was named *Ischaemumjanarthanamii* from plateaus of Western Ghats of Goa.
- It was named so in honour of Prof. M. K. Janarthanam, Professor of Botany, Goa University, for his contribution to the Indian grass taxonomy and documentation of the floristic diversity of Goa state.
- It grows on low altitude lateritic plateaus in the outskirts of Bhagwan Mahavir National Park, Goa.



- The species has adapted to survive harsh conditions, low nutrient availability, and blossoms every monsoon.

#### Do you know?

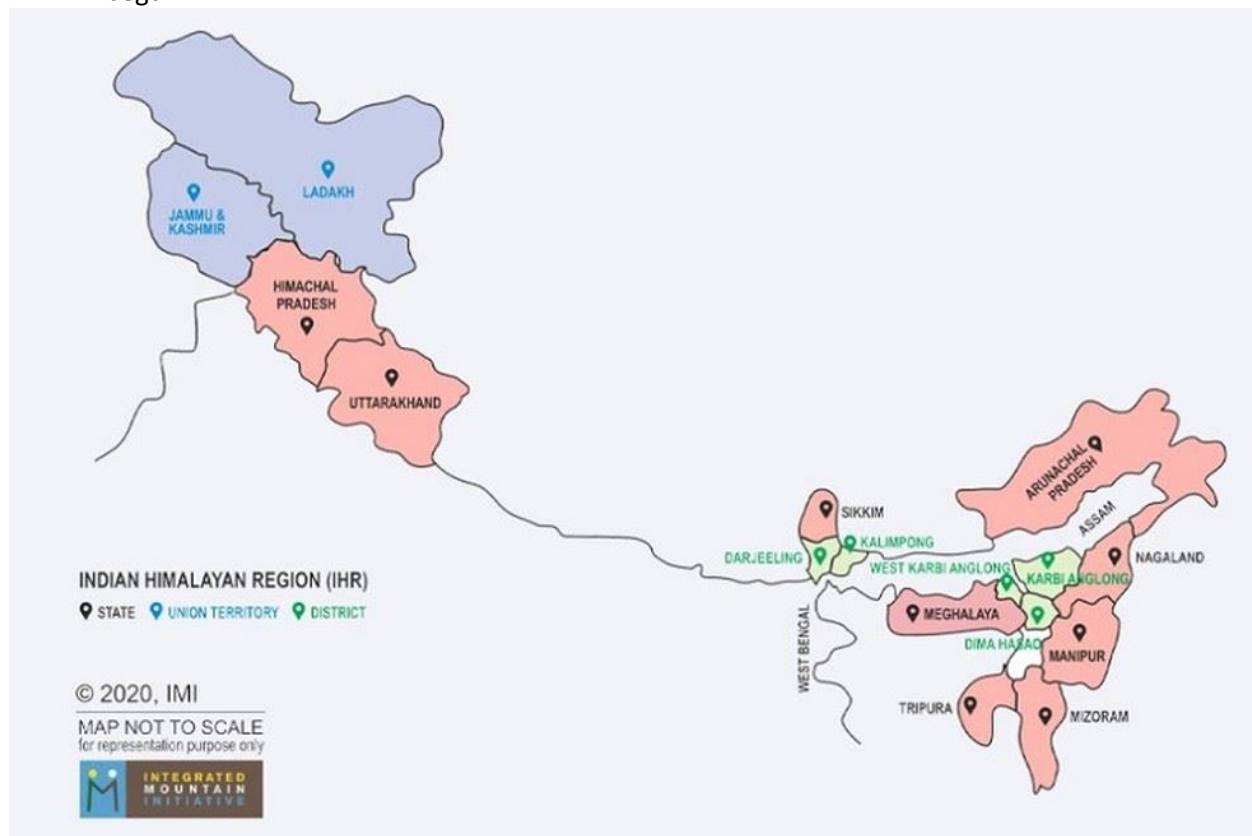
- Globally 85 species are known from *Ischaemum*, of which 61 species are exclusively found in India.
- The Western Ghats have 40 species with the highest concentration of the genus.

### Sustainable Mountain Development Summit (SMDS) begins

**Part of:** GS Prelims and GS-III – Environment

#### In news

- The 9<sup>th</sup> edition of the Sustainable Mountain Development Summit (SMDS) in Dehradun has begun.



#### Important value addition

- **Organised by:** Indian Mountain Initiative (IMI)
- The summit seeks to deliberate on issues such as migration, water security, climate resilience and innovative solutions for the farm sector, and disaster risk reduction in the Indian Himalayas.
- Every year 3-5 salient themes engaging the immediate attention of and relevant to the mountains and hills are taken up for threadbare discussion and debate.

- Conclusions and recommendations emerging from this exercise are pursued by IMI subsequently for actionable output.
- **The theme for 2020:** Emerging Pathways for Building a Resilient Post COVID-19 Mountain Economy, Adaptation, Innovation and Acceleration.
- The first edition was organized in 2011 in Nainital.

### **Integrated Mountain Initiative (IMI)**

- It is a civil society led network platform.
- **Mission:** To mainstream concerns of the Indian Himalayan Region (IHR) and its people in the development dialogue of India.
- It functions as a platform to integrate the knowledge and experiences of multiple stakeholders working across the IHR, and uses this to inform and influence policy at the national and state level.

### [Climate Ambition Summit 2020 held virtually](#)

**Part of:** GS Prelims and GS-III – Environment

#### **In news**

- The United Nations, United Kingdom and France co-hosted the Climate Ambition Summit 2020 which was held virtually recently.

#### **Key takeaways**

- The Summit marked the five years of the adoption of the Paris Agreement on Climate Change.
- The summit aims to bring together leaders to make new commitments to tackle climate change and deliver on the goals of the Paris Agreement.
- The United Kingdom pledged to double its climate finance contribution to USD 15.5 billion over the next five years.
- The European Investment Bank announced a goal of 50% of investments going toward the climate and environment sectors by 2025.
- It also called for climate finance commitments to support the most vulnerable and ambitious adaptation plans and underlying policies.
- According to Indian Prime Minister, India is not only on track to achieve its Paris Agreement targets, but to exceed them beyond expectations.

#### **Do you know?**

- India has reduced emission intensity by 21% over 2005 levels.
- Solar capacity has grown from 2.63 GigaWatts in 2014 to 36 GigaWatts in 2020.
- Renewable energy capacity is the fourth largest in the world.
- It will reach 175 GigaWatts before 2022.
- India has also set new target of 450 GigaWatts of renewable energy capacity by 2030.
- On the world stage, India has pioneered two major initiatives: (1) The International Solar Alliance; (2) Coalition for Disaster Resilient Infrastructure.

## Paris Climate Deal: India's Progress, Pandemic and Challenges

**Context:** Virtual Climate Ambition Summit, co-convened by the UN to mark five years of the Paris Agreement.

### **What is Paris Agreement?**

- **Objective:** It is a multilateral agreement within the United Nations Framework Convention on Climate Change (UNFCCC); signed to reduce, mitigate greenhouse-gas-emissions.
- **Temperature Targets:** To slow the process of global warming by limiting a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.
- **Emission Goals:** Another crucial point in this agreement was attaining “net zero emissions” between 2050 and 2100. Nations have pledged “to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century”.
- **Burden Sharing:** Developed countries were also told to provide financial resources to help developing countries in dealing with climate change and for adaptation measures. Other countries are invited to provide support on voluntary basis.
- **Non-binding Voluntary Targets:** The Paris Agreement requires that all countries — rich, poor, developed, and developing — slash greenhouse gas emissions. Nations voluntarily set their emissions targets and incur no penalties for falling short of their targets.
- **Review Mechanism:** A review every five years with first mandatory world review at 2025. Each review will show an improvement compared with the previous period.
- **Climate-related loss:** The agreement also includes a mechanism to address financial losses faced by less developed nations due to climate change impacts like droughts, floods etc. However, developed nations won't face financial claims since it “does not involve or provide a basis for any liability or compensation”.

### **What is Nationally Determined Contributions (NDC)?**

- It means the contributions that need to be done by each country to achieve the overall global goal.
- The contributions need to be reported every 5 years to UNFCCC.
- The contributions are not legally binding.
- The goal is to make sure that all countries have access to technical expertise and financial capability to meet the climate challenges.

### **How is Paris Climate different from Kyoto Protocol?**

- In the Kyoto Protocol, there was a differentiation between developed and developing countries which were mentioned as Annex 1 countries and non-Annex 1 countries respectively.
- However, in the Paris agreement, there is no difference between developing and developed countries.

### **Financial Support pledged during the Paris 2015 Agreement**

- Developed countries have committed \$ 100 Billion a year.
- Finance would be balanced between mitigation and adaptation.
- G7 countries announced the US \$ 420 Million for Climate Risk Insurance and the launching of the Climate Risk and Early Warning Systems (CREWS) initiative.
- \$ 3 Billion commitment for Green Climate Fund.

### India's Greenhouse gas emissions

- India's GHG emissions accounted for 6.5% of 2014 global total, according to data from the World Resources Institute. This made the country the **fourth-largest** emitter after China, the United States and the European Union.
- Per capita, India's emission from fossil fuels (in 2017) is by far the lowest among major economies:
  - India: 1.83 MT carbon dioxide (CO<sub>2</sub>)
  - China: 7.72 MT in China
  - The EU: 6.97 MT
  - The US: 15.74 MT

### What are India's Climate commitments?

In 2015, ahead of the UN significant climate conference in Paris, India announced three major voluntary commitments called the Nationally Determined Contributions (NDC):

1. Improving the emissions intensity of its GDP by 33–35% by 2030 over 2005 levels
2. Increasing the share of non-fossil fuels-based electricity to 40% by 2030.
3. Enhancing its forest cover, thereby absorbing 2.5 to 3 billion tonnes of carbon dioxide

### India's progress in fulfilling its Climate Commitments

- India has reduced emission intensity by 21% over 2005 levels.
- Solar capacity has grown from 2.63 GigaWatts in 2014 to 36 GigaWatts in 2020.
- Renewable energy capacity is the fourth largest in the world and will reach 175 GigaWatts before 2022.
- India has also set new target of 450 GigaWatts of renewable energy capacity by 2030.
- On the world stage, India has pioneered two major initiatives: (1) The International Solar Alliance; (2) Coalition for Disaster Resilient Infrastructure.
- The **Emissions Gap Report 2020** of the UNEP includes India among nine G20 members who are on track to achieve their unconditional commitments under the Paris pact, based on pre-COVID-19 projections.
- **The Climate Action Tracker website** has rated its climate efforts as "2-degree compatible" — that can contribute to limiting warming by the end of the century to 2° Celsius; making India the only major economy to be so highly rated.

### How has COVID-19 Pandemic impacted the Climate Commitments?

- The brief reduction in global GHG emissions brought about by the pandemic has given all countries an opportunity to review their development trajectories.
- The unprecedented event has enabled them to deploy an extraordinary fiscal stimulus for rehabilitation of economies — estimated at \$12 trillion globally — making green growth a possibility.
- India faces a particular challenge, in moving its pandemic rehabilitation spending away from traditional brown sector policies aligned with fossil fuel use to green territory.

### Challenges with India's path ahead

#### 1. Issues with afforestation and Carbon sink

- At the recent summit, Mr. Modi took credit for expansion of forests, which, according to the national pledge under the Paris Agreement, will serve as a carbon sink of 2.5 bn to 3 bn tonnes of carbon dioxide equivalent by 2030.

- This is a key goal, given that it has multiple benefits, protecting biodiversity, influencing the climate system and providing resources for communities.
- But it is fraught with uncertainty. The Centre has questioned the veracity of State afforestation data and said only a fourth of the claims they made were deemed credible.
- Clearly, without a cohesive policy on verifiable afforestation, the carbon sink approach may yield poor dividends, with questions hanging over the spending.

## 2. Issue with Renewable energy additions and emissions

- Achieving 100 gigawatts of solar power capacity within the overall renewables goal, from 36 GW now, needs a steep scale-up that must actively promote rooftop solar installations.
- There is little evidence that this is a high priority for most States.
- Transport-related emissions, which are a major component of the whole, have risen sharply in the unlock phase of the pandemic as people prefer personal vehicles, but the issue received little support from States which failed to reorder cities for cycling and pedestrianisation.
- Large-scale agriculture insurance against climate disasters also needs attention

### Conclusions

In the year that remains before countries meet at the UN Climate Change conference in Glasgow in 2021, India needs to focus on future emissions and plan green investments that qualify for global climate funding.

### Connecting the dots

US Withdrawal from Paris Climate deal: Click [here](#)

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## [India Water Impact 2020](#)

**Part of:** GS Prelims and GS-III – Environment

### In news

- India Water Impact Summit, held recently, saw many experts from India and abroad sharing their insights on the topic of conservation and development.

### Key takeaways

- India Water Impact 2020 is a five-day long summit.
  - Experts and academicians from all over the world discuss and debate issues related to water conservation, water security and river rejuvenation during the summit.
  - The event is co-organised by National Mission for Clean Ganga and Centre for Ganga River Basin Management and Studies.
  - During the event, Norwegian Institute of Bioeconomy Research signed MOU with cGanga (think-tank of NMCG) for development of sludge management framework in India.
- 

## [12th GRIHA \(Green Rating for Integrated Habitat Assessment\) Summit](#)

**Part of:** GS Prelims and GS-III – Environment

### In news

- The Vice President of India recently inaugurated the 12th GRIHA (Green Rating for Integrated Habitat Assessment) Summit.

- **Organised by:** GRIHA Council from Hyderabad.
- **Theme:** Rejuvenating Resilient Habitats.
- **Purpose:** To serve as a platform to deliberate on innovative technologies and solutions which shall help in creating robust mechanisms for developing sustainable and resilient solutions for the benefit of the entire community.
- The Vice President also launched the SHASHWAT magazine and the book '30 Stories Beyond Buildings' during the event

#### Key takeaways

- According to the World Green Building Council data, buildings and construction account for 39% of energy-related CO2 emissions in the world.
- India called for accelerating the process of total de-carbonization of the built environment.
- It was also opined that roof cooling should be an area of priority for all.
- In India, over 60% of roofs are made from metal, asbestos, and concrete - thus trapping heat inside buildings and contributing to heat island effect in urban areas.
- Cool roofs can lower indoor temperatures by 2 to 4 degrees Celsius as compared to traditional roofs.
- It was also observed that the implementation of Bureau of Energy Efficiency's Energy Conservation Building Code (ECBC) has not been uniform across India.
- The states of Telangana and Andhra Pradesh were appreciated for taking a lead in this regard.

#### Important value additions

##### Green Rating for Integrated Habitat Assessment (GRIHA)

- It is the national rating system of India for any completed building construction.
- **GRIHA** is recognised as India's own green building rating system in India's **Intended Nationally Determined Contributions (INDC)** submitted to the **United Nations Framework Convention on Climate Change (UNFCCC)**.
- **Created By:** It was conceived by **The Energy and Resources Institute (TERI)** and developed jointly with the **Ministry of New and Renewable Energy**.
- GRIHA Council has developed the Building Fitness Indicator (BFI) tool - a free-to-use self-assessment tool that allows organizations to measure the preparedness of workplaces to prevent exposure to COVID-19.

#### [A four-point action plan to improve Delhi's air](#)

**Context:** The deteriorating air quality in Delhi has led the Centre to set up the [Commission for Air Quality Management](#) in National Capital Region and Adjoining Areas.

Every year, as the air quality reaches dangerous proportions, emergency measures are taken to ease the situation. However, in the absence of a long-term strategy, the problem recurs every winter.

The causes of poor air in the National Capital Region (NCR)

- Stubble-burning in neighbouring states
- Construction dust
- Industrial pollution

- Localised bonfires to meet the heating needs of the poor
- Emissions from motor vehicles (on-road vehicular exhaust emissions account for nine per cent to 38% of particulate matter (PM2.5) in the atmosphere)

A sustainable plan to reduce emissions from the **transport sector** requires a comprehensive and multi-year effort. A **four-pronged approach could help.**

### 1. Deployment of Clean Technologies

- Electric mobility is a rapidly-growing choice, globally.
- India is focused on this sector, having formulated a National Electric Mobility Mission Plan and has instituted programmes that offer financial incentives for electric buses and other vehicles.
- However, effective deployment requires a comprehensive and actionable road map involving all stakeholders that must cover supply- and demand-side interventions like mandating purchase of Electric Vehicles (EVs), establishing charging and swapping stations, awareness campaigns, setting standards and incentives to vehicle and component manufacturers.
- Hydrogen Fuel Cell vehicles (HFCs), though not yet commercialised, are said to be a fitting complement to EVs, especially to cover long distances of freight and passenger commute.

### 2. Adopting shared and non-motorised transport.

- The key to effecting a modal shift is to **persuade people to move from personal motor vehicles to either shared modes**, like buses, metro rail and shared taxis or to non-motorised modes, like cycling and walking.
- Unfortunately, the quality of India's public transport systems – especially our city buses – are primarily designed for affordability, not quality thus discouraging private vehicle commuters from making a shift.
- Affluent commuters seek high-quality options, featuring door-to-door travel, greater comfort, less crowding, and tracking and smart ticketing choices.
- They are willing to pay higher fares for such services. To earn their buy-in, public transport should incorporate a variety of premium services that ensure quality even if it means steeper ticket prices.
- Meanwhile, **Mobility as a Service (MaaS)** is an emerging concept in some European cities that allows transportation services to be available on demand and as per need, through a mobile app.
- Identical to the app-based taxi services in India, MaaS cuts across modes of transport to offer multi-modal trip options based on willingness to pay, time availability and other parameters. In India, MaaS can revolutionise daily commutes and offer the much-needed solution for a modal shift.
- To promote non-motorised modes, NCR must invest in well-planned and safer infrastructure for cycling and walking

### 3. Improving traffic flow

- If traffic congestion is reduced and vehicles move seamlessly, then vehicular pollution will diminish. This is because moving vehicles will disperse the emissions effectively, ensuring they don't get locked up in one location.
- Staggering peak time travel could be a solution to distribute the movement of traffic over a longer period of the day. Offices and commercial establishments can adopt staggered and flexible timings for employees.

#### 4. Reducing travel demand

- Improving online delivery of public services can help reduce the average number of trips people make. Policies and supporting infrastructure that allow citizens to work from home and shop online will help this effort.
- Likewise, mixed land-use planning could reduce trip lengths. Newly-developing areas should co-locate offices, commercial and residential addresses to minimise long commutes.

#### Conclusion

- These actions to reduce vehicular pollution could begin the process of improving NCR's air quality. However, the need of the hour is a focused, comprehensive, systematic and multi-year effort across sectors.
- Today, Delhi looks up to the commission to develop a scientific plan with a long-term vision, be adequately resourced and empowered to implement it. This holds out a glimmer of hope that people can breathe easy in future winter seasons.

### [Any exploitation of Sentinel Island will wipe out tribals: AnSI](#)

**Part of:** GS Prelims and GS-II – Policies and Interventions & GS-III – Environment

#### In news

- Anthropological Survey of India (AnSI) policy document warns of threat to endangered group from commercial activity.

#### Key takeaways

- According to ANSI, any exploitation of the North Sentinel Island of the Andamans for commercial and strategic gain would be dangerous for its occupants - the Sentinelese.
- It also said that the Right of the people to the island is non-negotiable, unassailable and unfringeable.
- The prime duty of the state is to protect these rights as eternal and sacrosanct.
- Their island should not be eyed for any commercial or strategic gain.
- The document also calls for building a knowledge bank on the Sentinelese.
- Since 'on-the-spot study' is not possible for the tribal community, anthropologists suggest the 'study of a culture from distance'.

#### Important value additions

##### Sentinelese

- It is the most secluded, particularly vulnerable tribal group (PVTG) who reside in complete isolation on the Andamans.
- It has a population of about 50 to 100 on the North Sentinel Island.
- They are not only among the most isolated of nearly 70 PVTGs across the country, but also among the five in the Andaman and Nicobar Islands which include Great Andamanese, Onge, Jarawa, and Shompens.

#### Do you know?

- Though both Sentinelese and Great Andamanese are classified as PVTG, the tribes live in two completely different contact situations.



- While in the case of the Sentinelese their contact to the outside world is almost nil, the Great Andamanese had decades of exposure to the world outside their Island.
- 

## Areas suitable for grassland restoration and conservation identified in Tropical Montane Grasslands (TMG)

**Part of:** GS Prelims and GS-III – Environment

**In news**

- Tropical montane grasslands (TMG) in the Shola Sky Islands of the Western Ghats have suffered big reductions due to invasions by exotic trees.
- However, researchers have now identified areas suitable for grassland restoration and conservation to reverse the decline.

**Key takeaways**

- TMG are high elevation grasslands forming only 2% of all grasslands in the world.
- **Function:** Regulating the global carbon cycle and serving as a source of water to downstream communities.
- In India, TMG have been classified as wastelands in forest management plans since they are unlikely to generate revenue, contrary to the timber found in forests.

**Do you know?**

- In the Western Ghats, 23% of montane grasslands were reportedly converted into invasive exotic tree cover over a period of 44 years.
- 

## Gastrodia Agnicellus named as the ugliest orchid in the world

**Part of:** GS Prelims and GS-III – Biodiversity

**In news**

- Gastrodia agnicellus, a newly discovered orchid has been named “the ugliest orchid in the world.”

**Key takeaways**

- It was found in a forest in Madagascar.
- It feeds on fungi.
- It has no leaves.
- Although assessed as a threatened species, the plants have some protection because they are located in a national park.

**Do you know?**

- Madagascar is an island country in the Indian Ocean, approximately 400 kilometres off the coast of East Africa.
- Madagascar is the world's second-largest island country.

## [Rehabilitation Centre For Monkeys](#)

**Part of:** GS Prelims and GS-III – Environment

**In news**

- The first rescue and rehabilitation centre for monkeys in Telangana was inaugurated at Gandhi Ramanna Haritavanam near Chincholi village in Nirmal district.

**Key takeaways**

- Monkeys that venture into human habitations would be caught in a phased manner, brought to the centre where they would be operated on for birth control and would be released into the forests again after the rehabilitation period.
- To make the rehabilitation centre a sustainable habitat for the primates, several fruit and flowering plants, a variety of trees that provide shade, and medicinal plants would be grown.
- It is the second such facility for the primates in the country.
- The rehabilitation centre for the monkeys was also the first such facility in south India.
- The other facility in the country was in Himachal Pradesh.

## JSA II: Catch The Rain Awareness Generation Campaign

**Part of:** GS Prelims and GS-III – Environment

**In news**

- National Water Mission (NWM), Ministry of Jal Shakti in collaboration with Nehru Yuva Kendra Sangathan (NYKS), Ministry of Youth Affairs & Sports launched the “JSA II: Catch the Rain” Awareness Generation Campaign.

**Key takeaways**

- Nehru Yuva Kendra Sangathan will undertake the campaign covering 623 districts across the nation from December 2020 to March 2021.
- NWM has launched a campaign “Catch the rain” with tag line “catch the rain, where it falls, when it falls” in order to nudge all stake-holders to create Rain Water Harvesting Structures (RWHS) to store rain water as rains falling in the four/five months of monsoon are the only source of water for most parts of the country.

**Important value additions**

**The objective of the National Water Mission**

- Increase water use efficiency by 20% through regulations, differential entitlements and pricing.
- A considerable share of water needs of urban areas is to be met through recycling of wastewater.
- Water requirements of coastal cities are to be met through the adoption of low-temperature desalination technologies.
- Consult with states to ensure that basin-level management strategies are made to deal with variability in rainfall and river flows due to climate change.
- Enhance storage above and below ground, implement rainwater harvesting.
- Adopt large scale irrigation programmes which rely on sprinklers, drip irrigation and ridge and furrow irrigation.

## 75% districts in India hotspots of extreme climate events

**Part of:** GS Prelims and GS-III – Environment; Climate change

**In news**

- Over 75% districts in India, home to more than 63.8 crore people, are hotspots of extreme climate events such as cyclones, floods, droughts, heat and cold waves, according to a study released by the Council on Energy, Environment and Water (CEEW).

### Key takeaways

- This is the first time that extreme weather event hotspots in the country have been mapped.
- The frequency, intensity, and unpredictability of these extreme events have risen in recent decades.
- While India witnessed 250 extreme climate events in 35 years between 1970 and 2005, it recorded 310 such weather events in only 15 years since then.
- In the last 50 years, the frequency of flood events increased almost eight times.
- Events associated with floods such as landslides, heavy rainfall, hailstorms, thunderstorms, and cloudbursts increased by over 20 times.
- Six of India's eight most flood-prone districts in the last decade—Barpeta, Darrang, Dhemaji, Goalpara, Golaghat, Sivasagar—are in Assam.
- The yearly average of drought-affected districts increased 13 times after 2005. Nearly 68% of the districts have faced droughts and drought-like situations.
- Drought-affected district hotspots of India in the last decade were Ahmednagar, Aurangabad (both Maharashtra), Anantapur, Chittoor (both Andhra Pradesh), Bagalkot, Bijapur, Chikkaballapur, Gulbarga, and Hassan (all Karnataka).
- The study also found a shift in the pattern of extreme climate events, such as flood-prone areas becoming drought-prone and vice-versa, in over 40% of Indian districts.

### Do you know?

- Microclimatic zones, or areas where the weather is different from surrounding areas, are shifting across various districts of India.
- A shift in microclimate zones may lead to severe disruptions across sectors – every 2 degrees C rise in annual mean temperature will reduce agricultural productivity by 15-20%, it has found.
- **Reasons behind shift in microclimatic zones:** Change in land-use patterns, disappearing wetlands and natural ecosystems by encroachment, and urban heat islands that trap heat locally.

## [Tso Kar Wetland Complex becomes India's 42nd Ramsar site](#)

**Part of:** GS Prelims and GS-III – Environment; Biodiversity

### In news

- India has added Tso Kar Wetland Complex in Ladakh as its 42nd Ramsar site.
- It is also a second one in the Union Territory (UT) of Ladakh.



### Key takeaways

- The Tso Kar Basin is a high-altitude wetland complex.
- It consists of two principal waterbodies, Startsapuk Tso, a freshwater lake and Tso Kar itself, a hypersaline lake situated in the Changthang region of Ladakh.
- It is called Tso Kar, meaning white lake, because of the white salt efflorescence found on the margins due to the evaporation of highly saline water.
- The Tso Kar Basin is an A1 Category Important Bird Area (IBA) as per Bird Life International and a key staging site in the Central Asian Flyway.
- The site is also one of the most important breeding areas of the Black-necked Crane (*Grus nigricollis*) in India.
- This IBA is also the major breeding area for Great Crested Grebe (*Podiceps cristatus*), Bar-headed Geese (*Anser indicus*), Ruddy Shelduck (*Tadorna ferruginea*), Brown-headed Gull (*Larus brunnicephalus*), Lesser Sand-Plover (*Charadrius mongolus*) and many other species.

### Do you know?

- Tso Moriri or Lake Moriri or "Mountain Lake", is a lake in the Changthang Plateau in Ladakh.
- It was notified in 2002 under the List of Ramsar Wetland sites under the Ramsar Convention.

### Important value additions

#### The Ramsar Convention

- It was signed on 2nd February, 1971.

- It is one of the oldest inter-governmental accords signed by member countries.
- Objective: To preserve the ecological character of their wetlands of international importance.
- It is named after Ramsar, the Iranian city where the treaty was signed.
- Places chosen for conservation under it are given the tag 'Ramsar site'.
- **The aim of the Ramsar list:** To develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem components, processes and benefits.

#### Related articles:

- Other recently added Ramsar sites: [Click here](#)

### [Endangered Species Research authors suggest existence of unknown Whale Population](#)

**Part of:** GS Prelims and GS-III – Environment; Biodiversity  
**In news**

- In a paper published in the journal Endangered Species Research, authors described a new whale song, suggesting the existence of a population that was previously unknown.

#### Key takeaways

- Researchers have recorded the unique song off the coast of Oman in the northern Arabian Sea, off the western Chagos Archipelago, and off Madagascar in the southwestern Indian Ocean.
- Since it is the only blue whale song identified by them in the western Arabian Sea, researchers have called it the "Northwest Indian Ocean".
- Researchers believe the source is either the blue whale or Bryde's whale since both species have been documented off Oman previously.
- **Significance:** Given that this song-type has not been reported before, the presence of it across a large geographic region indicates the likely existence of a previously undefined population of blue whales in the Western Indian Ocean.

#### Do you know?

- Not all whales sing.
- Only some, such as the baleen whale, have been found to sing songs.
- Whales use songs to communicate and socialise.
- Their songs can be characterised as clicks, whistles and pulsed calls or a composition of "moans, snores, chirps and cries".
- Whales use clicks to navigate and identify their surroundings as the sound bounces off objects, helping whales determine their shapes.
- These use whistles and pulses during social activities.
- Their songs can last between 6-35 minutes, and some individual whales have been found to sing for 22 hours.
- Whale songs are typically below 4 kHz in frequency, thus being inaudible to human ears.
- Human hearing range is between 20 Hz to 20 kHz.

## Antarctic iceberg A68 becomes cause for concern for South Georgia Island

**Part of:** GS Prelims and GS-III – Environment

### **In news**

- The giant Antarctic iceberg A68 has become a cause for concern for South Georgia Island.

### **Key takeaways**

- The giant iceberg A68, the biggest block of free-floating ice from Antarctica with an area of about 5,800 sq. km, has been drifting in the Atlantic Ocean since 2017.
- In 2020, due to an ocean current, the iceberg was propelled into the South Atlantic Ocean and since then it has been drifting towards the remote sub-Antarctic island of South Georgia, which is a British Overseas Territory (BOT).
- This has prompted fears about the impact the iceberg could have on the island's abundant wildlife.
- Icebergs travel with ocean currents and either get caught up in shallow waters or ground themselves.
- Recently, US National Ice Center (USNIC) confirmed that two new icebergs calved from A68a and were large enough to be named and tracked.
- They are called A68E and A68F.

### **Do you know?**

- South Georgia is an island in the southern Atlantic Ocean that is part of the British Overseas Territory of South Georgia and the South Sandwich Islands (SGSSI).
- The main settlement is Grytviken.
- The US National Ice Center (USNIC) is responsible for naming icebergs, which are named according to the Antarctic quadrant in which they are spotted.



### Portulaca Laljii: A new species of wild sun rose

**Part of:** GS Prelims and GS-III – Biodiversity

**In news**

- Botanists have discovered a new species of wild sun rose from the Eastern Ghats in India.


**Key takeaways**

- The new species, named *Portulaca laljii* was discovered from Prakasam district of Andhra Pradesh.
- It has unique features such as a tuberous root, no hair in its leaf axils, a reddish pink flower, prolate-shaped fruits, and copper brown seeds without lustre.
- The flowers are very attractive and bloom for months from June to February.
- The plant bears beautiful, tiny pink flowers for eight months.
- It is because of the succulent nature of tuberous roots that the plant can survive on rocky crevices.



**Do you know?**


- Portulaca laljii has been named to honour the contribution of Lal Ji Singh, an eminent botanist of the Botanical Survey of India associated with its Andaman and Nicobar Centre.



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## ANIMALS/NATIONAL PARKS IN NEWS

### Zebrafish being used as a research model to promote heart regeneration

**Part of:** GS Prelims and GS-III – Environment; Biodiversity

**In news**

- Recently, Scientists at Pune-based Agharkar Research Institute have used the Zebrafish as a research model and identified genes that can promote heart regeneration.



### **Important value addition**

- Zebrafish is a tiny freshwater fish barely 2-3 cm long.
- It can efficiently regenerate its damaged heart within a short time period.
- Zebrafish is found in the tropical and subtropical regions.
- The fish is native to South Asia's Indo-Gangetic plains, where they are mostly found in the paddy fields and even in stagnant water and streams.
- It is a popular aquarium fish, frequently sold under the trade name Danio.
- The zebrafish is an important and widely used vertebrate model organism in scientific research, for example in drug development, in particular pre-clinical development.
- It is also notable for its regenerative abilities and has been modified by researchers to produce many transgenic strains.

## [Pilibhit Tiger Reserve bags international award TX2](#)

**Part of:** GS Prelims and GS-III – Tiger Reserves; Wildlife Conservation

### **In news**

- The Pilibhit Tiger Reserve (PTR - Uttar Pradesh) recently bagged international award TX2 for doubling the number of tigers in the past four years.
- TX2 Award goes to one site that has achieved remarkable and measurable increase in its tiger population since 2010.

### **Important value addition**

#### **Pilibhit Tiger Reserve (PTR)**

- PTR is located in Uttar Pradesh.
- The northern edge of the reserve lies along the Indo-Nepal border while the southern boundary is marked by the river Sharada and Khakra.
- PTR is one of the finest examples of the exceedingly diverse and productive Terai ecosystems.
- It is home to a habitat for over 127 animals, 326 bird species and 2,100 flowering plants.
- Wild animals include tiger, swamp deer, Bengal florican, hog deer, leopard, etc.
- It has high sal forests, plantation and grasslands with several water bodies.

#### **TX2 Goal**

- The TX2 goal is a global commitment to double the world's wild tigers by 2022.
- The goal has been set by the World Wildlife Fund (WWF) through the Global Tiger Initiative, Global Tiger Forum and other critical platforms.
- **Tiger Range Countries:** India, Bangladesh, Bhutan, Cambodia, China, Indonesia, Lao PDR, Malaysia, Myanmar, Nepal, Russia, Thailand and Vietnam.
- **IUCN Red List Status of Tiger (Panthera Tigris):** Endangered
- It is listed under Appendix I of CITES.
- It has been listed under 'Schedule I' of the Wildlife Protection Act, 1972.

## [The Transboundary Manas Conservation Area receives the Conservation Excellence Award, 2020](#)

**Part of:** GS Prelims and GS-III – Tiger Reserves; Wildlife Conservation

### **In news**

- Recently, The Transboundary Manas Conservation Area receives the Conservation Excellence Award, 2020.

#### **Key takeaways**

- Conservation Excellence Award recognises one site that has achieved excellence in two or more of these five themes: (1) Tiger and prey population monitoring and research; (2) Effective site management; (3) Enhanced law enforcement & protection & ranger welfare improvement; (4) Community based conservation, benefits and human-wildlife conflict mitigation; (5) Habitat and prey management.

### Important value addition

#### Transboundary Manas Conservation Area (TraMCA)

- It was established in 2011.
- **Vision:** To jointly develop and manage a transboundary conservation area between Bhutan and India, for the benefit of people and wildlife.
- The TraMCA landscape forms a vital mosaic of conservation spaces across the Eastern Himalayas.
- It covers the entire Manas Tiger Reserve in India, four protected areas in Bhutan and also two biological corridors.
- The Manas Tiger Reserve in India and Royal Manas National Park in Bhutan form the core of this biologically outstanding trans-boundary region.
- It is home to tigers, elephants, rhinos and more than 1,500 species of mammals, birds and vascular plants.
- The Manas River also flows through them.
- The number of Tigers in the Indian Manas increased from 9 in 2010 to 25 in 2018
- In the Bhutan Manas, the number more than doubled from 12 in 2008 to 26 in 2018.

### Two New Zoos Granted Recognition by Central Government

**Part of:** GS Prelims and GS-III – Environment

#### In news

- Two new zoos were granted recognition recently.
- These are - Rajgir Zoo Safari in Nalanda, Bihar and Shaheed Ashfaque Ullah Khan Prani Udyaan in Gorakhpur, Uttar Pradesh

### Important value addition

#### Rajgir Zoo Safari, Nalanda, Bihar

- The zoo is established exclusively comprising on only safari enclosures which offer larger space for captive animals.
- The animals are not in cages but they are free to roam over a forest area.
- The zoo is located close to the historically important Nalanda.

#### Shaheed Ashfaque Ullah Khan Prani Udyaan, Gorakhpur, U.P.

- With the establishment of this zoo, the state of Uttar Pradesh has a total of 9 zoos.
- It is the second biggest zoo in Uttar Pradesh after Kanpur Zoological Park.

### Myristica Swamp Treefrog recorded for the first time

**Part of:** GS Prelims and GS-III – Environment; biodiversity

#### In news

- Myristica swamp treefrog, has been recorded for the first time in the Vazhachal Reserve Forest in Kerala's Thrissur district.
- It is a rare arboreal species endemic to the Western Ghats.



#### Important value addition

- **Scientific name:** *Mercurana myristicapalustris*.
- These frogs are rare and elusive for the reason that they are arboreal and active only for a few weeks during their breeding season.
- During this season, there is a large aggregation of males that descend from the high canopy of the trees.
- The males vocalise in groups from the low perches in the swamps.
- They exhibit unique breeding behaviour.
- The breeding season, unlike for other frogs, starts in the pre-monsoon season (May) and ends before the monsoon.

#### [Species in news: Himalayan Serow](#)

**Part of:** GS Prelims and GS-III – Biodiversity

#### **In news**

- A Himalayan serow has been sighted for the first time in the Himalayan cold desert region of Spiti, Himachal Pradesh.
- Wildlife officials believe this particular animal may have strayed into the Spiti valley from the Rupi Bhaba Wildlife Sanctuary, HP



### Important value addition

#### Himalayan serow

- **Scientific name:** The Himalayan serow, or *Capricornis sumatraensis thar*
- It is a subspecies of the mainland serow (*Capricornis sumatraensis*).
- It resembles a cross between a goat, a donkey, a cow, and a pig.
- It's a medium-sized mammal with a large head, thick neck, short limbs, long, mule-like ears, and a coat of dark hair.
- There are several species of serows, and all of them are found in Asia.
- Himalayan serows are typically found at altitudes between 2,000 metres and 4,000 metres.
- They are known to be found in eastern, central, and western Himalayas, but not in the Trans Himalayan region.
- It is herbivores.
- **IUCN Red List status:** Vulnerable
- It is listed under Schedule I of The Wildlife Protection Act, 1972, which provides absolute protection.

#### [Species in news: Indian Gaur](#)

**Part of:** GS Prelims and GS-III – Biodiversity

**In news**

- Indian Bison was in news recently.
- It was seen in Pune's urban landscape which led to its capture and consequently died due to injury.
- The sad news of its death has put the spotlight on human-Gaur conflict in the country.



### Important value addition

Indian

Gaur

- **Scientific Name:** Bos Gaurus.
- It is one of the largest extant bovines.
- It is one of the largest species among the wild cattle.
- **Habitat:** Gaurs are found on the forested hills and grassy areas of South to South-East Asia.
- They are found in India, China, Thailand, Malaysia, Bangladesh, Bhutan, and Nepal.
- The Western Ghats in southern India constitute one of the most extensive extant strongholds of gaur, in particular in the Wayanad – Nagarhole – Mudumalai – Bandipur complex.
- The gaur is the State Animal of Goa and Bihar.
- **IUCN status:** Vulnerable
- The Indian Government has included it in the Schedule I of the Wild Life Protection Act, 1972.
- It is listed in CITES Appendix I.

## [Status Of Leopards Report released](#)

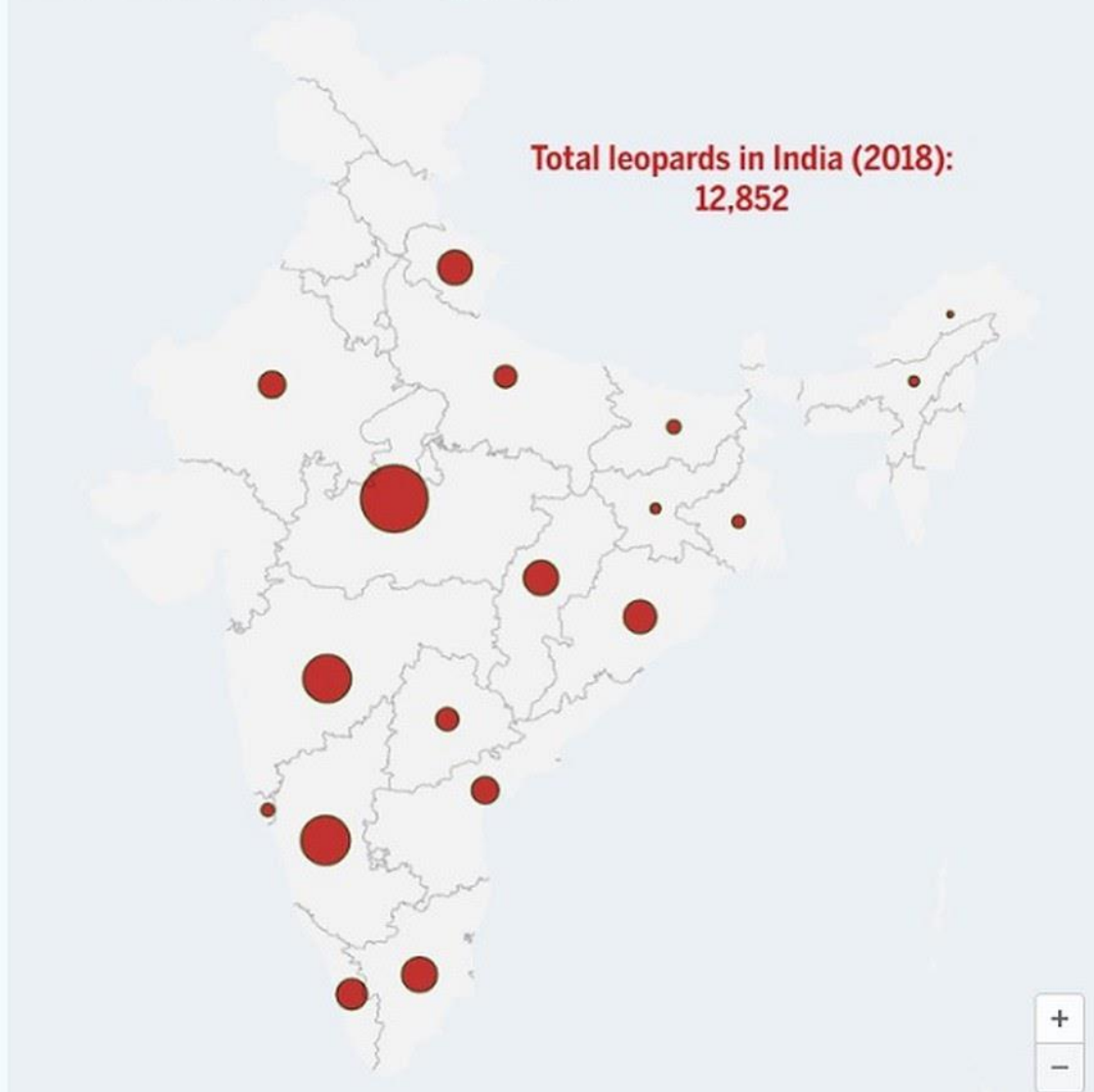
**Part of:** GS Prelims and GS-III – Environment; Biodiversity

**In news**

- Union Minister for Environment released the Status of Leopards report.

**From 2014 to 2018, leopard population increased by 60%**

*Madhya Pradesh has the highest number of leopards in India*



### **Key takeaways**

- The leopard population has been estimated using camera trapping method.
- There are 12,852 leopards in India as of 2018 as compared to the previous estimate of 7910 conducted in 2014, an increase of 60% in 4 years.



- The highest concentration of the leopard in India is estimated to be in Madhya Pradesh (3,421) followed by Karnataka (1,783) and Maharashtra (1,690).
- Recent meta-analyses of leopard status and distribution suggest 48–67% range loss for the species in Africa and 83–87% in Asia.
- In India, leopards have experienced a possibly human-induced 75-90% population decline in the last ~120-200 years.
- In Indian subcontinent, poaching, habitat loss, depletion of natural prey and conflict are major threats to leopard populations.
- All these have resulted in changing the species status from 'Near Threatened' to 'Vulnerable' by the IUCN.
- As for region-wise distribution, the highest number of 8,071 leopards were found in central India and eastern ghats.
- In the northeast hills, there are just 141 leopards.

#### Do you know?

- The leopard was estimated across forested habitats in tiger range areas of the country but other leopard occupied areas such as non-forested habitats, higher elevations in the Himalayas, arid landscapes and majority of North East landscape were not sampled.
- Therefore, the population estimation should be considered as minimum number of leopards in each of the landscapes.

### Cattle competing one-horned rhino's in Assam's Mini Kaziranga

**Part of:** GS Prelims and GS-III – Environment; Biodiversity

#### In news

- Too many cattle are competing against the one-horned rhinos of Assam's Pobitora Wildlife Sanctuary, referred to as 'Mini Kaziranga' for nutritious food.

#### Important value additions

##### **Pobitora Wildlife Sanctuary**

- It is situated in the flood plains of River Brahmaputra in the district of Morigaon.
- In 1987, Pobitora was declared a wildlife sanctuary.
- It harbors the highest density of Rhinoceros in the world and second highest concentration of Rhinoceros in Assam after Kaziranga National Park.
- It is an Important Bird Area and home for more than 2000 migratory birds and various reptiles.

### Firefly bird diverters for Great Indian Bustards

**Part of:** GS Prelims and GS-III – Environment; Biodiversity

#### In news

- The Ministry of Environment along with the Wildlife Conservation Society, India, has come up with a unique initiative — a “firefly bird diverter” for overhead power lines in areas where Great Indian Bustard (GIB) populations are found in the wild.



Great Indian Bustards near power lines fitted with firefly detectors.

### Key takeaways

- The GIB is one of the most critically threatened species in India, with fewer than 150 birds left in the wild.
- It is listed as Critically Endangered in IUCN Red List.
- A 2019 report by the Environment Ministry pointed out that power lines, especially high-voltage transmission lines with multiple overhead wires, are the most important current threat for GIBs in the Thar region, and are causing unsustainably high mortality in about 15% of their population.

### Do you know?

- Firefly bird diverters are flaps installed on power lines. They work as reflectors for bird species like the GIB.
- Birds can spot them from a distance of about 50 metres and change their path of flight to avoid collision with power lines.
- The diverters are called fireflies because they look like fireflies from a distance, shining on power lines in the night.

## INFRASTRUCTURE/ENERGY

### Petroleum Board's notifies New Unified Tariff Structure

**Part of:** GS Prelims and GS-III – Economy

**In news**

- The Petroleum and Natural Gas Regulatory Board (PNGRB) has notified a new tariff structure for 14 natural gas pipelines.
- The aim is to reduce the cost of natural gas for users further away from sources of natural gas and LNG terminals on the west coast of the country.

**Key takeaways**

- Under the new unified tariff structure, buyers will be charged a fixed tariff for the transport of gas within 300 kms of a source and a fixed tariff for the transport of gas beyond 300 kms on a single pipeline network.
- This would be significantly cheaper for buyers further away from the source of gas who were earlier charged on the basis of the number of pipelines used and the distance from the source of gas.
- Therefore, a buyer using multiple pipelines would likely benefit significantly from this change.
- The changes in the tariffs will likely incentivise greater investment into gas transmission infrastructure as natural gas becomes more affordable for users further away from the west coast of the country.

**Do you know?**

- The Indian government is aiming to boost the consumption of natural gas which currently accounts for 6.2% of India's energy basket to 15% by 2030.

### DUET (Decentralised Urban Employment and Training) for urban areas

**Context**

- There is a crisis of employment in the urban informal sector, as millions of workers have lost their job due to periodic lockdowns, and may or may not retrieve it soon.
- Our public institutions and public spaces (schools, colleges, health centres, bus stands, jails, shelters, hostels, parks, museums, offices, etc.) have a chronic problem of poor maintenance.
- There is growing interest in an employment guarantee act, but little experience of relief works in urban areas. Decentralised Urban Employment and Training' (DUET) could act as a step towards urban employment guarantee.

**The basic idea of DUET**

- The state government issues '**job stamps**' and distributes them to approved institutions – schools, colleges, government departments, health centres, municipalities, neighbourhood associations, urban local bodies, etc
- Each job stamp can be converted into one person-day of work within a specified period, with the approved institution arranging the work
- **Wages, paid by the government**, would go directly to the workers' accounts against job stamps certified by the employer.

- Employees are to be selected from a pool of registered workers by the approved employer, or, by an independent 'placement agency' (to avoid collusion)

#### What is the role of the placement agency?

- The primary role of the placement agency is to assign registered workers to approved employers as and when required. But it could also serve other purposes, for example, certifying workers'skills, protecting workers from exploitation and arranging social benefits for them.
- Various options could be considered for the placement agency, such as: (1) a single agency for the municipality, run by the local government; (2) a worker cooperative; (3) multiple placement agencies, run as non-profit organisations or cooperatives.

#### Precedents

- Some countries have employment-subsidy schemes of similar inspiration, e.g. "service voucher schemes" (SVS) in several European countries.
- Belgium has a very popular SVS for domestic services such as cleaning and ironing. It was used by 1 out of 5 households in 2016.
- The service vouchers are much like job stamps, except that they are used by households instead of public institutions, for the purpose of securing domestic services such as cooking and cleaning.
- The service vouchers are not free, but they are highly subsidised, and households have an incentive to use them since that is a way of buying domestic services very cheap.
- In the DUET scheme, the use of job stamps relies on a sense of responsibility among the heads of public institutions, not their self-interest.

#### How is DUET different from MGNREGA?

- It is meant to create a lasting institution as an antidote to urban unemployment and urban decay.
- The motivation for DUET is quite different from that for MNREGA. MNREGA offers insurance to rural workers in a slack season or in a drought year when agricultural jobs disappear. That is not the case of urban production.

#### What is the rationale/merits of DUET?

- **Job Creation:** Activating a multiplicity of approved employers will help to generate a lot of employment.
- **Activating a multiplicity of potential employers:** The approved employers will have a stake in ensuring that the work is productive.
- **Efficient:** The scheme requires little staff of its own since existing institutions are the employers. The Scheme thus avoids the need for special staff, facilitating productive work.
- **Avoids Leakages:** Workers are assured of timely payment at the minimum wage as it involves direct payment of wages using JAM trinity.
- **Towards employment guarantee:** It would be relatively easy to move from DUET towards demand-driven 'employment guarantee'. That would require the municipality to act as a last-resort employer, committed to providing work to all those who are demanding work
- **Urban Infrastructure Creation:** Urban areas could use some infrastructure and there is under utilised labour but there are no resources to use this labour to build the infrastructure. DUET may be one way to solve this problem

#### What are the precautions that one needs to take to make DUET a success?

- **Permissible List of Works:** To avoid abuse, the use of job stamps could be restricted to a list of permissible works. But the list should be fairly comprehensive, and not restricted to maintenance.
- **Avoid Displacement of Existing Jobs:** The list of works should not be so broad as to displace existing jobs in public institutions.
- **Ensure Worker Safety:** All DUET employment should be subject to worker safety and welfare norms specified in the scheme and existing labour laws.
- **Equity in worker registration:** All urban residents above the age of 18 should be eligible to register under DUET, but special registration drives or placement agencies could be located in low-income neighbourhoods.
- **Integrate Skilling:** The scheme would cover both skilled and unskilled workers. Whenever a skilled worker is employed, an assistant (unskilled) worker could be mandatorily employed as well, to impart an element of training and skill formation to the scheme.
- **Giving priority to women** would have two further merits. First, it would reinforce the self-targeting feature of DUET, because women in relatively well-off households are unlikely to go (or be allowed to go) for casual labour at the minimum wage. Second, it would promote women's general participation in the labour force.
- **Needs Independent Monitoring:** An independent authority could be appointed or designated at the municipal level to monitor, inspect, audit and evaluate the works.

### Conclusion

The scheme should be given a chance by way of a pilot scheme in select districts or even municipalities.

## [Draft Guidelines Of Technical Specifications Of Floating Structures](#)

**Part of:** GS Prelims and GS-III – Infrastructure

### In news

- Ministry of Ports, Shipping and Waterways has issued the draft guidelines for technical specifications of floating structures for public consultation, with a vision to deploy world-class floating infrastructure all along the coastline.

### Key takeaways

- Floating structure because of its inherent advantages, is attractive solution and is being encouraged by the Ministry of Ports, Shipping and Waterways.
- Deployment of floating jetties, especially in locations having a large tidal range, where conventional quay poses problems during low tide periods, is very convenient.
- Floating jetties are cost-effective and much cheaper than conventional structures.
- Setting up of floating structures is much faster as compared to conventional jetties.
- Its environmental impact is minimal.
- Expansions are easily feasible due to modular construction techniques.
- It is easily transportable in case of reconfiguring of the port.

It provides constant freeboard between jetties and boats.

## [Bangladesh Signs First Preferential Trade Agreement \(PTA\)](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Bangladesh signed its first Preferential Trade Agreement (PTA) with Bhutan allowing duty free access to a range of goods between the two countries.

**AT A GLANCE**

- Bangladesh signs its maiden PTA with Bhutan today
- 100 Bangladeshi goods will enter Bhutan duty-free
- 34 Bhutanese items will enjoy duty-free benefit in Bangladesh
- In 2018-19, Bangladesh exported goods worth \$7.56m to Bhutan and imported goods worth \$42.09m
- The figures were \$0.61m and \$12.16m respectively ten years ago



**Key takeaways**

- This is the first PTA Bangladesh has signed with any country in the world.
- The agreement was signed on the occasion marking the 50 years of diplomatic ties between the two countries.
- Under the PTA 100 Bangladeshi products will get duty free access to Bhutan.
- At the same time, 34 items from Bhutan will get duty free access into Bangladesh.
- Bangladesh is expected to sign 11 more PTAs and Free Trade Agreements (FTAs) with countries like Indonesia and Nepal by June next year.

**Do you know?**

- In 1971, Bhutan was the first country in the world, followed by India as the second, to recognise Bangladesh as an independent country.

**Public Wi-Fi Networks**

**Part of:** GS Prelims and GS-II – Policies and Interventions & GS-III - Infrastructure

**In news**

- The government has given its approval for setting up of Public Wi-Fi Networks by Public Data Office Aggregators (PDOAs) to provide public Wi-Fi service through Public Data Offices (PDOs) spread across the country to accelerate proliferation of Broadband Internet services through Public Wi-Fi network.

**Key takeaways**

- This Public Wi-Fi Access Network Interface will be known as PM-WANI.

- PM-WANI eco-system will be operated by different players:
  - **Public Data Office (PDO):** It will establish, maintain, and operate only WANI compliant Wi-Fi Access Points and deliver broadband services to subscribers.
  - **Public Data Office Aggregator (PDOA):** It will be an aggregator of PDOs and perform the functions relating to Authorization and Accounting.
  - **App Provider:** It will develop an App to register users and discover WANI compliant Wi-Fi hotspots in the nearby area and display the same within the App for accessing the internet service.
  - **Central Registry:** It will maintain the details of App Providers, PDOAs, and PDOs. The Central Registry will be maintained by C-DoT.
- No registration would be required for PDOs.
- PDOAs and App Providers will get themselves registered with DoT through online registration portal (SARALSANCHAR) of DoT, without paying any registration fee.
- There shall be no license fee for providing Broadband Internet through these public Wi-Fi networks.
- The proposal will promote the growth of Public Wi-Fi Networks in the country.
- It will help in proliferation of Broadband Internet, enhancement of income and employment and empowerment of people.

## PM WANI Scheme

**Context:** Union Cabinet has approved Prime Minister Wi-Fi Access Network Interface (PM-WANI). This is being seen as an attempt by the government to elevate wireless internet connectivity in the country.

### **Key Features of PM WANI Scheme**

- **Public Data Offices (PDOs)** — comparable to a PCO or a cybercafe — will establish, maintain, and operate only the WANI compliant Wi-Fi access points to deliver broadband services to its subscribers. These PDOs will either provide internet on their own or will lease from some other Internet Service Provider (ISP).
- **PDO Aggregators (PDOAs)** will also be set up. These will perform the function of authorisation and accounting of the numerous PDOs.
- **The app provider** will develop the app to register users and discover PM-WANI compliant WiFi hotspots nearby.
- **A central registry** will be set-up which will maintain details of all app providers, PDOAs and PDOs. The registry will be handled by the Centre for Development of Telematics (C-DoT).
- A customer wanting to access the network from a PDO's premise can do so only after an eKYC authentication.

### **Do You Know?**

- Service providers had in 2018 stated that they aimed to provide 5 lakh hotspots by March 31, 2019 and 10 lakh hotspots by September 30, 2019. However, these targets have not been achieved.
- PM WANI Scheme that enables public wi-fi data service through small retail data offices can get many more people connected, just as long-distance telephony was expanded through STD public call offices over three decades ago.

### **Merits of PPM WANI Scheme**

- **Unleashes Wi-Fi revolution in India:** According to TRAI, in most major economies, 50%-70 % of the total usage time of mobile users is through WiFi but in India, this figure is less than 10%. PM WANI will help increase Wifi usage through increased presence of Wifi hotspots.
- **Enhances Quality of life:** Internet access will connect a new wave of users not just to commercial and entertainment options, but also to education, telehealth and agriculture extension
- **Ease of doing business:** Registration for PDOs will be granted within seven days of the application, else they will be deemed registered. Also, Communications Ministry has stated that no license fee will be charged for providing broadband internet services
- **Creates Employment and enhances Incomes:** The scheme would enable small shopkeepers like tea shop owner to register online as a service provider which will boost their incomes as well as ensure our youth gets seamless internet connectivity.
- **Strengthens Digital India mission:** The vision of Digital India programme is to transform India into a digitally empowered society and knowledge economy. The Digital India programme is centred on three key vision areas – Digital Infrastructure as core utility to every citizen, Governance & Services on demand and Digital Empowerment of Citizens
- **Financial Inclusion:** Bringing broadband Internet to remote locations at minimum investment, and giving subscribers the option of making small, need-based payments helps increase digital financial transaction across India particularly in rural areas
- **Boosts GDP:** Three years ago, when TRAI outlined WANI plan and initiated the first pilot of a public wi-fi system on the WANI architecture, it noted that a 10% rise in net penetration led to a 1.4% increase in GDP.
- **Bridges Digital divide:** A rapid scale-up of Internet in rural India will be transformative, given the low level of penetration — 27.57 subscribers per 100 population in 2019 - and wi-fi linked to broadband fibre service is the fastest route to achieving that.
- **Cost Effective way of Digital Expansion:** Upcoming mobile technologies such as 5G may provide good quality data, but they involve high investment in new spectrum, connectivity equipment and regular subscriber fees. The WANI system offers an elegant way forward to connect low revenue consumers.
- **Entrepreneurship Opportunities:** It opens up opportunities for community organisations, libraries, educational institutions, panchayats and small entrepreneurs to tap into a whole new ecosystem, purchasing bandwidth from a public data office aggregator to serve local consumers.

### Challenges Ahead

- **Clash with Mobile Telecom Firms:** Public wi-fi suffered neglect in past because it was seen as a competitor to data services sold by mobile telecom firms, rather than as the complementary technology it.
- **Safety and Security:** There is huge expectation on provision of robust service, protection of data integrity, transparency on commercial use of data, and security against cyberattacks.
- **Ensuring Free Market:** The government must also ensure true unbundling of hardware, software, apps and payment gateways in the WANI system, as advocated by TRAI, to prevent monopolies. Existing public wi-fi options run on a limited scale by some entities compel consumers to pay through a single gateway app, underscoring the need for reform

### Conclusion



Executed properly, the public data offices (PDOs) of PM WANI can do what the PCOs did for phone calls, going well beyond 'ease of doing business' to genuinely empower citizens.

## Renewable Energy Generation: Betting on the green power market

**Context:** India's recently launched real-time electricity market, coupled with the green market, offers a significant opportunity to integrate renewable energy in the most efficient and competitive manner.

### **Potential of Renewable Energy across Globe**

- As per the International Energy Agency's Renewables 2020 report, driven by China and the United States, net installed renewable capacity will grow by nearly 4% globally in 2020, reaching almost 200 GW.
- Globally, renewables are expected to overtake coal and become the largest source of electricity generation in 2025 and may supply one-third of the world's electricity.

### **Do You Know?**

- As a signatory to the Paris Climate Agreement, India is committed to increasing its share of renewable energy capacity to 450 GW by 2030.
- As of September 30, India has an installed renewable energy capacity of 89 GW.
- During the last six years, renewable sector has attracted over Rs 4.7 lakh crore of investment, including FDI of about Rs 42,700 crore.

### **Growth of Renewable Energy Sector in India**

- **Doubled generation capacity:** Renewable generation, at 138 billion units, has doubled in FY20, from 66 billion units in FY16.
- **Robust growth of sector:** The country witnessed 20% CAGR growth in the renewable generation since FY16 while total electricity generation saw 4.3% growth in the same period.
- **Decreasing Cost:** The current levelised cost of energy (LCOE) for large scale solar in India is around Rs 2.5 per kWh, compared to ~Rs 12 in 2010. In the recent bidding, it came down to Rs 2.

### **Measures taken by government that accelerated the progress in renewable sector:**

- Waiver of inter-state transmission charges for the sale of solar and wind power
- The renewable purchase obligation (RPO) trajectories for states
- Focus on maintaining the sanctity of contracts
- Permitting FDI in the renewable sector

### **Challenges w.r.t Renewable Energy**

- **Vulnerable to Weather Conditions:** While conventional power plants—that are coal-based or large hydro—have the ability to vary the generation as per need, renewable generation is more at the mercy of nature. Nor are the buyers who are focused on commercial considerations keen to purchase renewable power.
- **Challenges of Market Intervention:** Given the seasonality and intermittency of renewable power, it is not easily susceptible to market intervention.

- **Weak participation in electricity exchanges:** Most renewable power generation companies in India are committed to selling their power to consumers—mostly discoms and a few third-party consumers under the long-term Power Purchase Agreements (PPAs), with little prospect of excess generation to be offered on the exchange and the inability to schedule power supply

It is in the above context, the Central Electricity Regulatory Commission (CERC) approved trading of renewable energy contracts under **Green Term Ahead Market (GTAM)** on the energy exchange

- **GTAM is an alternative new model** introduced for selling off the power by the renewable developers in the open market without getting into long term PPAs
- **Transactions** through GTAM will be bilateral in nature with clear identification of corresponding buyers and sellers, there will not be any difficulty in accounting for Renewable Purchase Obligations (RPO).
- **Positive Start to GTAM:** The green market commenced trade on August 21 and in about just 90 days of commencement of trade, the market has achieved a cumulative traded volume of over 400 million units reflecting the confidence of the initiative.
- **More Options under GTAM:** The green market has now launched two more options—daily and weekly, to facilitate the market participants in buying renewable energy from three-hours to 11-days ahead. This will further strengthen the market and allow participants to buy green energy through contracts available for trade in all the segments.

#### Significance and benefits of GTAM initiative:

- **Benefit to Producer:** GTAM platform will benefit renewable energy producers by providing access to pan- India market. The green market will ultimately encourage green generators to adopt multiple models of sale and trading.
- **Benefit to Buyer:** It will benefit buyers of Renewable Energy through competitive prices and transparent and flexible procurement.
- **Incentivises State Governments:** It would lessen the burden on Renewable Energy-rich States and incentivize them to develop RE capacity beyond their own RPO.
- **Strengthens RE Market:** With robust value proposition such as transparency, competitive prices, flexibility, and payment security and financial savings that the exchange market offers, a pan-India green market has the potential to make the renewable energy market robust by increasing the number of participants in the sector.
- **Helps achieve National Targets:** The transparent platform would help in achieving RE capacity addition targets of the country. The Government has a target of 175 GW RE Capacity by 2022.

#### Conclusion

Steps like GTAM will play a crucial role in furthering sustainability goals, and ensuring that all the renewable energy generated within the country is dispatched in the most efficient manner through a pan India wide exchange-based energy markets.

[Comprehensive Telecom Development Plan \(CTDP\) For North Eastern Region \(NER\) approved](#)

**Part of:** GS Prelims and GS-III –Infrastructure

**In news**

- The Union Cabinet has approved for provision of a Universal Service Obligation Fund (USOF) Scheme.
- Under the scheme, Mobile Coverage in Arunachal Pradesh and two Districts of Assam (Karbi Anglong and Dima Hasao) shall be provided under the Comprehensive Telecom Development Plan (CTDP) for North Eastern Region (NER).

**Key takeaways**

- The project envisages to provide mobile coverage to around 2 thousands of uncovered villages at an estimated cost of about Rs.2,029 crore including operational expenses for five years.
- The project would be funded by Universal Service Obligation Fund.
- The project is targeted to be completed by December, 2022.
- The work related to provision of 4G mobile services in identified uncovered villages will be awarded through open competitive bidding process as per extant USOF procedures.

**Important value addition**

**Universal Service Obligation Fund (USOF)**

- Apart from the higher capital cost of providing telecom services in rural and remote areas, these areas also generate lower revenue due to lower population density, low income and lack of commercial activity.
- Thus normal market forces alone would not direct the telecom sector to adequately serve backward and rural areas.
- Keeping in mind the inadequacy of the market mechanism to serve rural and inaccessible areas on one hand and the importance of providing vital telecom connectivity on the other, most countries of the world have put in place policies to provide Universal Access and Universal Service to ICT.
- India's New Telecom Policy - 1999 (NTP'99) provided that the resources for meeting the Universal Service Obligation (USO) would be raised through a 'Universal Access Levy (UAL)', which would be a percentage of the revenue earned by the operators under various licenses.
- The Universal Service Support Policy came into effect from 01.04.2002.
- The Indian Telegraph (Amendment) Act, 2003 giving statutory status to the Universal Service Obligation Fund (USOF) was passed by both Houses of Parliament in December 2003.
- As per the Indian Telegraph Act 1885 (as amended in 2003, 2006 and 2008), the Fund is to be utilized exclusively for meeting the Universal Service Obligation.

**[KLI Project: Provision of Submarine Optical Fibre Cable Connectivity](#)**

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- The Union Cabinet has given its approval for Provision of Submarine Optical Fibre Cable Connectivity between Mainland (Kochi) and Lakshadweep Islands (KLI Project).

**Key takeaways**

- The Project shall provide a direct communication link through a dedicated submarine Optical Fibre Cable (OFC) between Kochi and 11 Islands of Lakshadweep viz.
- **Those 11 islands of Lakshadweep are:** Kavaratti, Kalpeni, Agati, Amini, Androth, Minicoy, Bangaram, Bitra, Chetlat, Kiltan & Kadmat.
- The Project would be funded by Universal Service Obligation Fund.
- The project will vastly improve telecommunication facility in the Lakshadweep Islands by providing large bandwidth.
- The project is targeted to be completed by May 2023.
- Bharat Sanchar Nigam Ltd. (BSNL) has been nominated as Project Execution Agency and Telecommunications Consultant India Ltd. (TCIL) as the Technical Consultant of the Project to assist Universal Service Obligation Fund, Department of Telecommunications.
- The ownership of the asset under the project will rest with USOF, the funding agency, under DoT.

**Related article:**

- Optical Fibre Connectivity to Andaman and Nicobar Islands: [Click here](#)

**Important value addition****Universal Service Obligation Fund (USOF)**

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**[Indian Railways launches Hospital Management Information System \(HMIS\)](#)**

**Part of:** GS Prelims and GS-II –Health & GS-III – Infrastructure

## In news

- Recently, Indian Railways has launched The Hospital Management Information System (HMIS).
- It is another major IT initiative by Railways to prioritise the well-being of its work force.



## Key takeaways

- **Developed by:** Indian Railways in coordination with RailTel Corporation Limited.
- **Objective:** To provide a single window of clearance of hospital administration activity such as clinical, diagnostics, pharmacy, examinations, industrial health etc.
- **Other objectives:** (1) Effectively manage all the health facilities & its resources; (2) Monitor performance of hospitals across the administrative channel; (3) Impart quality health care services to its beneficiaries; (4) Improve the patient turn-around time; (5) Generate and maintain EMR (electronic medical records) of all patients
- Presently, 3 Modules of HMIS – Registration, OPD Doctor Desk & Pharmacy – shall be implemented.
- These shall be implemented on trial basis at Central Hospital, Lallaguda and will progressively be implemented across all Health Units over SCR.

## Draft Indian Ports Bill, 2020

**Part of:** GS Prelims and GS-III – Infrastructure

## In news

- Ministry of Ports, Shipping and Waterways has circulated draft of Indian Ports Bill 2020 for public consultation which will repeal and replace the Indian Ports Act, 1908.

## Key takeaways

- The Bill seeks to create an enabling environment for the growth and sustained development of the ports sector in India through the following broad methods: **(1)** Constitution of Maritime Port Regulatory Authority; **(2)** Formulation of the National Port policy and National Port plan in consultation with Coastal State Governments, State Maritime Boards and other stakeholders; **(3)**

Formulation of specialised Adjudicatory Tribunals namely Maritime Ports Tribunal and Maritime Ports Appellate Tribunal to curb any anti-competitive practises in the port sector and act as a speedy and affordable grievance redressal mechanism.

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### [DakPay: New digital Payment App](#)

**Part of:** GS Prelims and GS-II – Governance & GS-III - Infrastructure

**In news**

- Department of Posts and India Post Payments Bank unveiled a new digital payment app DakPay.

**Key takeaways**

- DakPay is a suite of digital financial and assisted banking services provided by India Post & IPPB through the trusted Postal ('Dak') network across the nation to cater to the financial needs ('Pay') of various sections of the society.
  - DakPay UPI app allows users to create UPI ID and link multiple accounts across banks in a single mobile app.
  - The app facilitates instant money transfers, QR based payments in merchant stores and online shopping on e-commerce websites.
- 

### [IFSCA issues consultation paper on proposed Aircraft Leasing Regulations](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- International Financial Services Centres Authority (IFSCA) has issued consultation paper on proposed Aircraft Leasing Regulations.

**Background**

- India is poised to become the 3rd largest aviation market in the world by 2022.
- In January 2019, India's Ministry of Civil Aviation published a report, 'Project Rupee Raftar', that provided roadmap to developing an aircraft financing and leasing industry in India.
- The report identified International Financial Services Centre (GIFT city) for developing aircraft leasing and financing eco-system in the country.

**Key takeaways**

- In October, 2020, on the recommendation of IFSCA, the Central Government had notified Aircraft lease which shall include operating and financial lease of aircraft or helicopter and their engines as a financial product under International Financial Services Centres Authority Act, 2019.
- Considering, Aircraft leasing is a relatively new industry in India and Aircraft Leasing related regulations are different across various financial centres, IFSCA has prepared draft regulations for Aircraft Leasing and in order to get inputs from stakeholders as well as public comments.

**Do you know?**

- IFSCA has an objective to develop a world class FinTech hub at the IFSC in GIFT City, Gandhinagar (Gujarat).
- Thus, it endeavours to encourage the promotion of financial technologies ('FinTech') initiatives in financial products and services across the fields of banking, insurance, securities and fund management.

**Related articles:**

- International Financial Services Centres Authority (Banking) Regulations, 2020 approved: [Click here](#)
- IFSCA Committee Report on Development of International Retail Business: [Click here](#)
- Framework For Regulatory Sandbox introduced: [Click here](#)

### National Hydrology Project reviewed

**Part of:** GS Prelims and GS-III – Infrastructure; Environment

**In news**

- Review of the National Hydrology Project was carried out by Minister of Jal Shakti recently.
- The project is World Bank supported initiative of Ministry of Jal Shakti

**Important value additions**

- National Hydrology Project (NHP) was started in the year 2016
- It is a Central Sector Scheme with 100% grant to Implementing agencies on pan India basis.
- Budget outlay is of Rs 3680 Crore to be spent over a period of 8 years.
- **Aim:** (1) Improving the extent, reliability and accessibility of water resources information; (2) To strengthen the capacity of targeted water resource management institutions in India.
- Under the NHP, a nationwide repository of water resources data - NWIC has also been established.

### Revised Cost Estimate of North Eastern Region Power System Improvement Project (NERPSIP) approved

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- The Union Cabinet has approved the Revised Cost Estimate (RCE) of North Eastern Region Power System Improvement Project (NERPSIP) at an estimated cost of Rs. 6,700 crore.

**Key takeaways**

- The scheme is being implemented through POWERGRID, a Public Sector Undertaking (PSU).
- **Ministry:** Ministry of Power
- **Beneficiary states:** Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura.
- The scheme is targeted to be commissioned by December 2021.
- After commissioning, the project will be owned and maintained by the respective North Eastern State Utilities.

- **Objective of the project:** Economic development of North Eastern Region through strengthening of Intra - State Transmission and Distribution systems.

**Do you know?**

- The Scheme was initially approved in 2014 as a Central Sector Plan Scheme of Ministry of Power.
- It is being funded with the assistance of World Bank fund and by the Government of India (Gol) on 50:50 basis except for the capacity building component for Rs 89 crore, which will be entirely funded by the Gol.

[Government of India and New Development Bank sign a loan agreement for \\$1,000 million to provide support to Aatma Nirbhar Bharat Abhiyan through MGNREGS](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- The Government of India and New Development Bank signed a loan agreement for \$1,000 million to provide support to Aatma Nirbhar Bharat Abhiyan through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS).

**Key takeaways**

- The programme will support Government to enable economic recovery in the rural areas through Natural Resource Management (NRM) works.
- The programme proposes creation of durable rural infrastructure assets relating to NRM and generation of employment opportunities for rural poor, especially migrant workers who have returned from urban areas and have lost their livelihoods due to the COVID-19 pandemic.
- The \$1 billion loan from the NDB has a tenor of 30 years, including a 5-year grace period.

**Do you know?**

- The NDB was established based on the Inter-Governmental agreement among the BRICS countries (Brazil, the Russian Federation, India, China and South Africa) signed in 2014.
- **Objective:** To mobilise resources for infrastructure and sustainable development projects in BRICS and other emerging market economies and developing countries.
- **Headquarter:** Shanghai, China.
- The first regional office of the NDB is in Johannesburg, South Africa.

[Proposal of Spectrum Auction approved](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- The Union Cabinet has approved a proposal of the Department of Telecommunications to conduct spectrum auction through which spectrum will be assigned to the successful bidders for providing commercial mobile services.

**Key takeaways**



- The auction will be for spectrum in 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz and 2500 MHz frequency bands.
  - Spectrum will be offered for assignment for validity period of 20 years.
  - A total of 2251.25 MHz is being offered with total valuation of Rs. 3,92,332.70 crore (at reserve price).
  - By winning right to use spectrum through the auction, incumbent telecom service providers will be able to augment their network capacity whereas new players will be able to start their services.
  - Successful bidders may pay entire bid amount in one go (upfront) or may exercise an option to pay a certain amount upfront and remaining amount in a maximum up to 16 equated annual instalments, after a moratorium of two years.
  - In addition to the bid amount, successful bidders will also have to pay 3% of the [Adjusted Gross Revenue \(AGR\)](#) excluding wireline services as spectrum usage charges for the spectrum won through this auction.
- 

## [India – USA MOU In Electricity Sector](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Union Cabinet has approved MoU between India and USA for exchange of information in areas of mutual interest in the electricity sector.

**Key takeaways**

- Central Electricity Regulatory Commission (CERC), India and Federal Energy Regulatory Commission (FERC), United States of America (USA) will enter into a MoU for exchange of information and experiences in areas of mutual interest to both in the electricity sectors.
  - The MoU will help in improving regulatory and policy framework for developing efficient whole sale power market and enhancing grid reliability.
  - Under the MoU, the two sides will identify energy-related issues and develop topics and possible agendas for the exchange of information and regulatory practices in areas of mutual interest.
- 

## [Cabinet Committee on Security approves the setting up of a new National Security Directive](#)

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Recently, the Cabinet Committee on Security has approved the setting up of a new National Security Directive on the telecommunication sector.

**Key takeaways**

- It aims to classify telecom products and their sources under the ‘trusted’ and ‘non-trusted’ categories.
- It will make its decision based on approval of the National Security Committee on Telecom.

- It will be headed by the deputy National Security Advisor (NSA).
- It will have members from other departments and ministries, independent experts and two members from the industry.
- The National Cyber Security Coordinator is the designated authority and will devise the methodology to designate trusted products.

## Indian Railways issues draft National Rail Plan

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Recently, Indian Railways issued draft National Rail Plan.

**Key takeaways**

- The objective of the Plan is to create capacity ahead of demand by 2030, which in turn would cater to growth in demand right up to 2050 and also increase the modal share of Railways from 27% currently to 45% in freight by 2030.
- It aims to Reduce transit time of freight substantially by increasing average speed of freight trains from present 22Kmph to 50Kmph.
- Three Dedicated Freight Corridors, namely East Coast, East-West & North-South identified along with timelines.
- Assess Locomotive requirement to meet twin objectives of 100% electrification (Green Energy) by December 2023 and also the increasing traffic right up to 2030 and beyond up to 2050.
- Several new High Speed Rail Corridors have also been identified.
- Survey on Delhi-Varanasi High Speed Rail already under way.

**Do you know?**

- As part of the National Rail Plan, Vision 2024 has been launched for accelerated implementation of certain critical projects by 2024 such as:
  - 100% electrification,
  - Upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes,
  - Upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes
  - Elimination of all Level Crossings on all GQ/GD route.

## Government publishes a draft notification on E20 Fuel

**Part of:** GS Prelims and GS-III – Environment

**In news**

- The Ministry of Road Transport and Highways has published a draft notification seeking comments from the public for adoption of E20 fuel as an automotive fuel and for the adoption of mass emission standards for this fuel.
- The notification facilitates the development of E20 compliant vehicles.

**Important value additions**

- E20 fuel is blend of 20% of ethanol with gasoline.
  - It will also help in reducing emissions of carbon dioxide, hydrocarbons, etc.
  - It will help reduce the oil import bill, thereby saving foreign exchange and boosting energy security.
  - The compatibility of the vehicle to the percentage of ethanol in the blend of ethanol and gasoline shall be defined by the vehicle manufacturer and the same shall be displayed on the vehicle by putting a clearly visible sticker.
- 

## GPS-Based Toll Collection System

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- The Government has finalised GPS-based (Global Positioning System) toll collection to ensure seamless movement of vehicles across the country.
- **Ministry:** Union Minister of Road Transport & Highways

**Key takeaways**

- This will ensure India becomes ‘toll booth free’ in next two years.
- The toll amount will be deducted directly from the bank account based on the movement of vehicles.
- While now all commercial vehicles are coming with vehicle tracking systems, the Government will come up with some plan to install GPS technology in old vehicles.
- The Minister expressed hope that the toll collections may reach Rs 34 thousand crore by March 2021.
- By using GPS technology for toll collection, the toll income in next five years will be Rs 1.34 lakh crore.

**Related article:**

- About FASTag: [Click here](#)
- 

## Efforts in advanced stages to set up Coastal Radar Chain Network

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Efforts are in advanced stages to set up coastal radar stations in the Indian Ocean littoral states of Maldives, Myanmar and Bangladesh.
- **Objective:** To further expand the coastal radar chain network meant to enable real-time monitoring of the high seas for threats.

**Key takeaways**

- Mauritius, Seychelles and Sri Lanka have already been integrated into the country’s coastal radar chain network.

- Similar plans are in the pipeline with Maldives and Myanmar and discussions are ongoing with Bangladesh and Thailand.
- Under Phase-I of the coastal radar chain network, 46 coastal radar stations have been set up across the country's coastline.
- Under Phase-II of the project, which is currently underway, 38 static radar stations and four mobile radar stations are being set up by the Coast Guard and is in advanced stage of completion.

### Important value additions

#### Other developments

- The Indian Navy's Information Management and Analysis Centre (IMAC) located in Gurugram, which was set up after the 26/11 Mumbai terror attacks, is the nodal agency for maritime data fusion.
- As part of information exchange regarding traffic on the high seas, the Navy has been authorised by the government to conclude white shipping agreements with 36 countries and three multilateral constructs.
- So far agreements have been concluded with 22 countries and one multilateral construct.
- At the Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) which is meant to promote Maritime Domain Awareness, three more International Liaison Officers (ILO) are expected to join soon.
- The ILOs from France, Japan and the U.S. have joined the centre.

## [India and World Bank sign USD 500 million worth project for Green National Highway Corridors](#)

**Part of:** GS Prelims and GS-III – Infrastructure

#### In news

- The Indian Government and the World Bank signed a USD 500 million project to build safe and green national highway corridors in Rajasthan, Himachal Pradesh, Uttar Pradesh and Andhra Pradesh.

#### Key takeaways

- The Green National Highways Corridors Project will support the Road Transport and Highways Ministry to construct 783 kilometres of highways in various geographies by integrating safe and green technology designs such as local and marginal materials, industrial by-products and other bioengineering solutions.
- The project will help reduce GHG emissions in the construction and maintenance of highways.
- The project will also enhance the capacity of the Ministry of Road Transport and Highways in mainstreaming safety and green technologies.
- The \$500 million loan from the International Bank for Reconstruction and Development (IBRD) has a maturity of 18.5 years including a grace period of five years.

### Important value additions

#### The International Bank for Reconstruction and Development (IBRD)

- It is an international financial institution.
- **Established in:** 1944
- **Headquarter:** Washington, D.C., USA
- It is the lending arm of World Bank Group.
- It offers loans to middle-income developing countries.
- It is the first of five member institutions that compose the World Bank Group.
- The IBRD and its concessional lending arm, the International Development Association (IDA), are collectively known as the World Bank as they share the same leadership and staff.

## Products Specific Warehouses/Silos to come up at Ports and National Waterways

**Part of:** GS Prelims and GS-III – Infrastructure

**In news** Ministry of Ports, Shipping and Waterways (MoPSW) intends to create Product Specific Warehouses/Silos at various Ports (including both Major and Non-Major Ports), Multi Modal Logistics Parks located near Port area and alongside the National Waterways.

### **Key takeaways**

- It will enhance water-borne cargo volumes, reduce logistics cost and promote Ease of Doing Business.
- There is also a plan to create world-class Product Specific Agglomeration Centre on 'Pay and Use Model' which will immensely benefit the small traders and logistics players.
- The purpose of development of this infrastructure is to reduce the storage losses and facilitate distribution of cargo in the hinterland.
- The Silos will be for products such as Cement Silos, Liquid Tanks, Chemicals Tanks, Cold/Refrigerated Storage, Electronics Product Storage or any other suggested products.
- The smaller players find it difficult to get their product specific storage silos at various locations.
- The development of these world-class warehousing spaces will give a big push with better planning and inventory management.
- The smaller players would have the option of paying nominal fees to make use of this world-class infrastructure.

### **Do you know?**

- The Ministry aims to reduce logistic cost with appropriate infrastructure interventions as a part of ambitious Sagarmala Programme.
- The Programme was launched in 2016.
- This is the flagship programme of the Ministry to promote port-led development in India by harnessing potential of India's 7,500 Km long coastline and ~21000 km navigable waterways.

## FASTag to become mandatory for all vehicles from 2021

**Part of:** GS Prelims and GS-III – Infrastructure

### **In news**

- Recently, it was announced that FASTag is being made mandatory for all vehicles in India from 2021.

- It will be enforced from 1st of January, 2021.
- **Ministry:** Ministry for Road Transport, Highway

#### Key takeaways

- The FASTags were launched in the year 2016.
- Union Ministry of Road Transport and Highways had issued a notification in November this year making FASTag mandatory by 1st of January 2021 in old vehicles also sold before 1st December, 2017 through amendments in CMVR, 1989.
- As per Central Motor Vehicles Rules (CMVR), 1989, since 1st December 2017, the FASTag had been made mandatory for all registration of new four wheeled Vehicles and is being supplied by the Vehicle Manufacturer or their dealers.
- It had further been mandated that the renewal of fitness certificate will be done only after the fitment of FASTag for the Transport Vehicles.

#### Do you know?

- For National Permit Vehicles, the fitment of FASTag was mandated since 1st October 2019.
- It has also been mandated that a valid FASTag is mandatory while getting a new 3rd Party Insurance. This shall be applicable w.e.f. 1 April 2021.
- This would be a major step for ensuring that the payment of fees be 100% at Toll Plazas through the Electronic Means only and that the vehicles pass seamlessly through the Fee Plazas.
- There would be no waiting time at the Plazas and would save fuel.

#### Related articles:

- FASTag mandatory for all four wheelers: [Click here](#)
- FASTag mandatory for all vehicles: [Click here](#)

### [India's First Driverless Metro to be inaugurated](#)

**Part of:** GS Prelims and GS-III – Infrastructure

#### In news

- Indian Prime Minister is scheduled to flag off the country's first 'driverless' metro in Delhi on December 28.
- It will mark a milestone in India's urban mass rapid Transit.

#### Key takeaways

- The first 'driverless' train will roll out on Magenta Line of the Delhi Metro.
- Delhi metro is a network spread across the national capital and adjoining cities such as Noida, Gurugram, Faridabad, Ghaziabad and Bahadurgarh.
- The Centre has also notified changes in the Metro Railways General Rules, 2020 as the previous norms did not allow driverless services.
- The trials of DMRC's new 'driverless trains' were started in December 2017 where the automation of the new metro trains, that were equipped with Unattended Train Operations (UTO) and CBTC (Communication Based Train Control) signalling systems were tested .
- The driverless train operation (DTO) will only be applicable for Line 7 and Line 8 of the DMRC network which comes under the Phase III expansion.

These corridors are equipped with an advanced signalling technology which makes the transition possible.

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### Foundation stone for highway projects in Assam inaugurated

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Union Minister for Road Transport, Highways and MSMEs recently inaugurated and laid foundation stone for 27 highway projects in Assam.

**Key takeaways**

- **Benefits:** (1) Ease the transportation of commercial goods within and across the State; (2) Improve connectivity at the borders; (3) Enhance employment opportunities; (4) Save time and fuel; (5) Improve tourism and infra development; (6) Result in providing connectivity for agricultural produce up to larger markets.
  - A life-size bronze statue of former Prime Minister Atal Bihari Vajpayee was also unveiled.
  - Construction of a multi modal logistic park (MMLP) in Silchar was also announced.
  - This will be the second MMLP in Assam after the one being made in Jogighopa.
  - This will benefit the people by way of development of Road and waterways connectivity.
  - Construction of Dhuvri-Phoolbari bridge in the coming month was also announced.
- 

### National Common Mobility Card (NCMC) inaugurated

**Part of:** GS Prelims and GS-III – Policies and Interventions

**In news**

- Indian Prime Minister recently inaugurated fully operational National Common Mobility Card service on the Airport Express Line of Delhi Metro,
- The card service was started in Ahmedabad in 2019.

**Key takeaways**

- This one card will give integrated access to the commuters wherever they travel, whichever public transport they take.
- The idea of NCMC was floated by the Nandan Nilekani committee set up by the Reserve Bank of India (RBI).
- NCMC will allow passengers with RuPay debit card, issued in the last 18 months by 23 banks to be swiped for Metro travel.
- This facility will become available on the entire Delhi Metro network by 2022.
- NCMC is an automatic fare collection system.
- It will turn smartphones into an inter-operable transport card that commuters can use to pay for Metro, bus and suburban railways services.
- It will allow entry and exit from Metro stations with the help of a smartphone, known as the automatic fare collection (AFC) system.

**Important value additions**

### One Nation, One system examples

- **One Nation, One Fastag** has made travel seamless on highways across the country.
- **One Nation, One Tax:** GST has ended the complications in the tax system and has brought uniformity in indirect tax system.
- **One Nation, One Power Grid**, is ensuring adequate and continuous power availability in every part of the country.
- **With One Nation, One Gas Grid**, Seamless Gas Connectivity is being ensured of the parts where gas-based life and economy were absent
- **One Nation, One Health Insurance Scheme**, that is, Ayushman Bharat through which millions of people from India are taking advantage anywhere in the country.
- Citizens moving from one place to another have got freedom from the trouble of making new ration cards through **One Nation, One Ration Card**.
- Similarly, the country is moving in the direction of **One Nation, One Agriculture Market** due to new agricultural reforms and arrangements like e-NAM.

### How biofuels can double farm incomes

**Context:** India currently consumes only one-third of the global average consumption of energy. Also, India imports about 84% of our oil and 56% of our gas for domestic use

As we move towards more robust energy consumption figures, the country faces the unique challenge of the following

- A ballooning appetite while cutting dependence on imports
- Greening the grid while ensuring affordability
- Replacing old forms of energy production while boosting employment.
- Improving the human and economic capital of the people.

In the above context, biofuels have become a tool for achieving these delicate balance of outcomes.

#### 1. Ethanol Blending Programme

- **Objective of Scheme:** The aim is to achieve 10% ethanol blending in petrol by 2022 and 20% blending by 2030 — something that will cut down carbon emissions in vehicles.
- **Source for Ethanol Production:** The primary raw material for ethanol production in India is sugarcane and its by-products, accounting for more than 90% of fuel ethanol supplies under the ethanol blended petrol (EBP) programme of Union Government. In addition to sugarcane, ethanol is also produced from damaged food grains, B-heavy molasses and sugarcane juice
- **Benefits Sugar Industry:** EBP programme injects liquidity into the stressed sugar sector. This programme also encourages diversion of sugarcane for ethanol production, which results in a decrease in the sugar glut in the country.
- **Helps in Doubling Farmers Income:** EBP scheme provides an alternative revenue stream to farmers. A sum of nearly Rs 35,000 crore in the past six years has flown back to farmers through sugar mills and distilleries as oil marketing companies (OMCs) provide off-take guarantee at fixed prices.
- **Improves Payment Cycle for farmers:** The arrangement of OMCs providing off-take guarantee at fixed prices also improves the health of the payment cycle to farmers since OMCs settle their



ethanol dues to distilleries in 21 days instead of the months that the farmers had to wait for their payment from sugar mills.

- **Alternative Market for Rice produce:** The recent decision to utilise surplus rice available with the Food Corporation of India and maize as an additional source of feedstock for ethanol production, starting this year, means farmers will now have an alternative market for their produce.
- **Increased Production indicates India moving in right direction:** Ethanol supplies have improved from 380 million litres in 2013-14 to 1.89 billion litres in 2019. Offers of about 3.5 billion litres from both sugar/molasses and grain-based distilleries are expected in 2020-21.
- **Determined Push:** In 2019, in a first for the Republic Day parade, the Indian Air Force flew aircraft in a Vic formation, with the lead plane using a mix of traditional fuel and biofuel, symbolising the government's determination to seek alternative sources of fuel.

## 2. National Policy on Biofuels

- **Objective:** The Policy formulated in 2018 targets 5% blending of biodiesel in diesel by 2030.
- **Source:** The policy encourages setting up of supply chain mechanisms for biodiesel production from non-edible oilseeds, used cooking oil and short-gestation crops.
- **Better land use and increased farmer income:** These crops can be easily cultivated in various states on land that is barren or not fit for edible crops, thus leading to efficient land usage and boosting farm incomes.
- **Increased Farmers Income:** A total of Rs 1 lakh crore worth of biofuel will be purchased by OMCs every year in the near future for blending. This money will be ploughed back to the rural economy, thus doubling farmers' incomes.
- **Increased Production indicates India moving in right direction:** Biodiesel procured by OMCs for blending high speed diesel has increased from 11.9 million litres in 2015-16 to 105.5 million litres last year.

## 3. Sustainable Alternative Towards Affordable Transportation (SATAT)

- **Objective:** The scheme launched in October 2018 aims to establish an ecosystem for production of compressed biogas (CBG) from various waste biomass sources in the country.
- Under SATAT, 5000 CBG plants with a total production capacity of 15 million metric tonne per annum (MMTPA), which is equivalent to 54 MMSCMD of gas by 2023, has been planned.
- **Investment Potential:** This initiative offers a potential for investment of about Rs 1.75 lakh crore, generating about 75,000 direct employment opportunities.
- **Environmental benefits:** The SATAT scheme will not only stanch greenhouse gas emissions, but will reduce burning of agricultural residue, which results in significant air pollution in cities like Delhi
- **Increases Farmer Income:** One of the byproducts of CBG plants is biomanure, which can be used in farming. The scheme also generate employment in rural and waste management sectors, and boost income for farmers from their unutilised organic waste.

## Conclusion

- The components of a biofuel supply chain create a circular rural economy that results in substantial environmental, socio-economic and health benefits for communities

## Connecting the dots

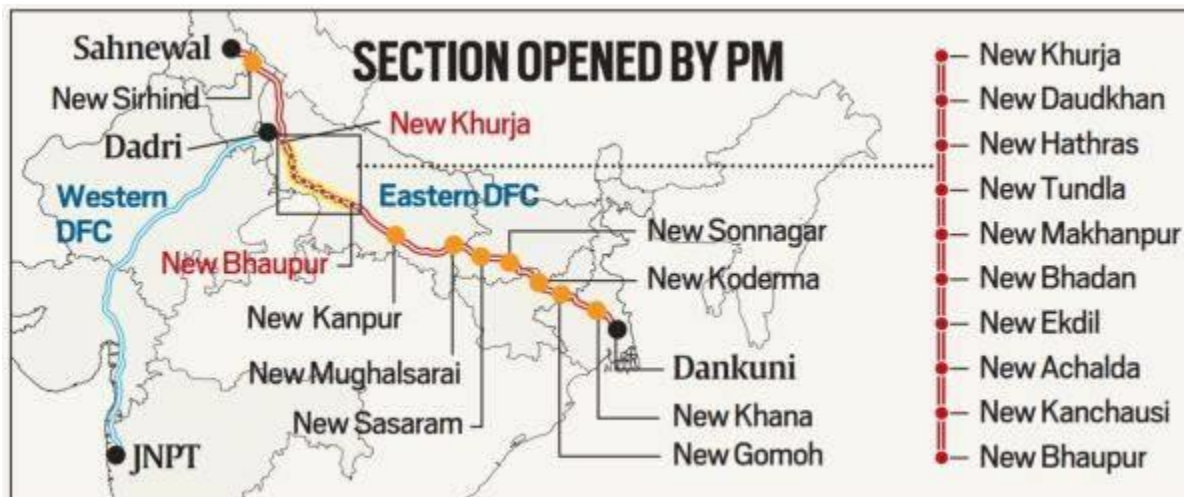
- Paris Climate Deal
- India's Strategic Petroleum reserves

## New Bhaupur-New Khurja Section of Eastern Dedicated Freight Corridor

**Part of:** GS Prelims and GS-III – Infrastructure

**In news**

- Indian Prime Minister dedicated to the nation the ambitious New Bhaupur-New Khurja section of Eastern Dedicated Freight Corridor (EDFC) in Uttar Pradesh (UP).



**Key takeaways**

- The 351-kilometre New Bhaupur- New Khurja section of EDFC is built at a cost of Rs. 5,750 crore and most of its part passes through UP.
- The section will decongest the existing Kanpur-Delhi main line and will enable Indian Railways to run faster trains.
- The agro products of UP will now reach at a faster speed to other parts of the country .
- It will increase the export capacity of the state which is a landlocked area and doesn't have any port to send the items abroad.

**Do you know?**

- The Prime Minister also inaugurated Eastern Dedicated Freight Corridor's Operation Control Centre at Prayagraj, UP.
- This will act as the command centre for the entire route length of the EDFC.
- The Operation Control Centre is equipped with state of the art facilities which are indigenously designed.

## PM to lay Foundation Stone of Light House Projects under GHTC-India

**Part of:** GS Prelims and GS-III –Infrastructure

### **In news**

- Prime Minister will lay the foundation stone of Light House Projects (LHPs) under Global Housing Technology Challenge-India (GHTC-India) at six sites across six States
- Prime Minister will also announce winners under Affordable Sustainable Housing Accelerators - India (ASHA-India) and give out annual awards for excellence in implementation of Pradhan Mantri Awas Yojana - Urban (PMAY-U) Mission.
- The Prime Minister will also release a certificate course on innovative construction technologies named NAVARITIH (New, Affordable, Validated, Research Innovation Technologies for Indian Housing) and a compendium of 54 innovative housing construction technologies identified through GHTC-India.

### **Key takeaways**

- The Light House Projects (LHPs) showcase the best of new-age alternate global technologies, materials and processes in the construction sector for the first time in India at such a large scale.
- They are being constructed under GHTC-India which envisages to provide an ecosystem for adoption of innovative technologies in the housing construction sector in a holistic manner.
- The LHPs are being constructed at Indore (Madhya Pradesh), Rajkot (Gujarat), Chennai (Tamil Nadu), Ranchi (Jharkhand), Agartala (Tripura) and Lucknow (Uttar Pradesh).
- They comprise about 1000 houses at each location along with allied infrastructure facilities.
- These projects will demonstrate and deliver ready to live houses at an expedited pace within twelve months, as compared to conventional brick and mortar construction, and
- They will be more economical, sustainable, of high quality and durability.

### **Important value additions**

#### **Affordable Sustainable Housing Accelerators - India (ASHA-India)**

- It aims to promote domestic research and entrepreneurship by providing incubation and acceleration support to potential future technologies.
- Under ASHA-India initiative, five ASHA-India Centers have been set up for providing incubation and acceleration support.
- The technologies, processes and materials identified through this initiative will provide a major fillip to young creative minds, start-ups, innovators and entrepreneurs.

#### **PMAY-U Mission**

- Pradhan Mantri Awas Yojana - Urban (PMAY-U) Mission has been designed to achieve the vision of "Housing For All by 2022".
- In order to recognize the outstanding contribution by States, UTs, Urban Local Bodies and beneficiaries, the Ministry of Housing and Urban Affairs has introduced annual awards for excellence in implementation of PMAY-Urban.

## Electric Vehicles

### **Issues**

- Electric car sales as a percentage of overall car sales in India is abysmally low at less than 0.2%.

- Electric scooters fare slightly better at 0.4% of overall two-wheeler sales -- a worrying sign despite incentives like reducing GST on electric vehicles to 5%, providing income tax benefits and waiving road tax.
- There are only 650 charging stations in India.
- The biggest challenge is the availability of reliable power supply at these charging stations, especially along highways.

### Way Ahead

- To promote EV uptake, the government should consider waiving highway toll fees for EVs, perhaps till 2025.
- Environmental bonus for car-makers and purchase price subsidies for EV buyers.
- India has set a goal that by 2030, 30% of cars sold annually should be EVs. But to realise this goal, the buyer, government, and the industry need to play their respective parts effectively.
- The government should aggressively work on improving the public charging infrastructure through a PPP model.
- The government must incentivise and push for solar-based charging stations.
- India needs to invest in alternative technologies like induction charging.
- Any research on creating an affordable mass-market solution for highways, parking lots, etc., will revolutionise India's EV market. Another area for research is on developing mass-market solid-state batteries for EVs.
- While FAME (Faster Adoption and Manufacturing of Hybrid and EV) schemes are a step in the right direction, the government must create a strong EV ecosystem to help India become a leading player in the EV manufacturing and components space.



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## SCIENCE AND TECHNOLOGY

### CSIR-CCMB gets permission for Dry Swab RT-PCR Covid-19 Test

**Part of:** GS Prelims and GS-II – Health & GS-III – Sci & Tech

**In news**

- Recently, the Council of Scientific and Industrial Research-Centre for Cellular and Molecular Biology (CSIR-CCMB) has got the permission of the Indian Council of Medical Research (ICMR) to commercially use the dry swab RNA-extraction free testing method for the Covid-19.

**Key takeaways**

- Dry swab method has a consistency of 96.9%.
- Dry swabs eluted directly into a simple buffered solution can support molecular detection of SARS-CoV-2 via endpoint RT-PCR without substantially compromising sensitivity.
- Dry swab technique does not require VTM and RNA extraction process.
- It can be directly used for RT-PCR testing.
- It has the potential of bringing down the costs and time of testing by 40-50%.
- The screening can also be enhanced several-fold with immediate effect
- The whole process is safer as well.
- It is easy to implement with no requirement of new kits.
- Existing manpower can perform this with no additional training.

**Important value addition**

**RT-PCR Test**

- Kary Mullis, the American biochemist invented the PCR technique.
- He was awarded the Nobel Prize for Chemistry in 1993.
- Under the test, copies of a segment of DNA (deoxyribonucleic acid) are created using an enzyme called Polymerase.
- The 'chain reaction' signifies how the DNA fragments are copied exponentially, where one is copied into two, the two are copied into four, and so on.
- A fluorescent DNA binding dye called the "probe" is added to DNA, which shows the presence of the virus on a fluorometer.
- Covid-19 is made of RNA (ribonucleic acid).
- In order to detect it, RNA is converted into DNA using a technique called reverse transcription.
- The copies of the DNA are then made and amplified.

### C32-LH2 Tank: Biggest cryogenic propellant tank delivered to ISRO

**Part of:** GS Prelims and GS-III – Sci & Tech

**In news**

- The public sector aerospace manufacturing company, the Hindustan Aeronautics Limited (HAL) delivered the biggest cryogenic propellant tank C32-LH2 to the Indian Space Research Organisation.



#### Key takeaways

- The C32-LH2 tank is a developmental cryogenic propellant tank of aluminium alloy.
- It is designed for improving the payload capability of GSLV MK-III launching vehicle of ISRO.
- The tank can load 5755 kg propellant fuel.

#### Important value addition

##### Cryogenic fuels

- Cryogenic fuels are fuels that require storage at extremely low temperatures in order to maintain them in a liquid state.
- These fuels are used in machinery that operates in space because ordinary fuel cannot be used there due to the very low temperatures often encountered in space, and due to absence of an environment that supports combustion.
- Cryogenic fuels most often constitute liquefied gases such as liquid hydrogen.

#### [US drugmaker Moderna applies for Emergency Use Authorisation \(EUA\)](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

##### In news

- US drugmaker Moderna said it was applying for emergency use authorisation for its Covid-19 vaccine.
- In India, Serum Institute of India, which is trialling a version of the AstraZeneca-Oxford vaccine, has said it expects to seek emergency use authorisation within the next two weeks.

##### Key takeaways

- Vaccines, medicines, diagnostic tests and medical devices, require the approval of a regulatory authority before they can be administered.

- In India, the regulatory authority is the Central Drugs Standard Control Organisation (CDSCO).
- For vaccines and medicines, approval is granted after an assessment of their safety and effectiveness, based on data from trials.
- This is a long process, designed to ensure that a medicine or vaccine is absolutely safe and effective.
- In emergency situations, like COVID-19, regulatory authorities around the world have developed mechanisms to grant interim approvals if there is sufficient evidence to suggest a medical product is safe and effective.
- Final approval is granted only after completion of the trials and analysis of full data; until then, emergency use authorisation (EUA) allows the medicine or the vaccine to be used on the public.

### 'Damaru' Inspired Lattice

**Part of:** GS Prelims and GS-I – Culture & GS-III – Sci & Tech

**In news**

- IIT Kanpur Researchers have developed 'Damaru' Inspired Lattice that finds applications in stealth submarines and high speed trains.
- **Sponsored by:** A SPARC project of Ministry of Education.



#### **Key takeaways**

- With the use of a micro-structured hour-glass shaped meta-structure in the lattice unit, one can get a wider variation of propagation and stop bands.
- Inspiration of the lattice has come from a two-headed drum called 'Damaru' or which is used in ancient Hinduism and Tibetan Buddhism.
- It is said that Lord Shiva has produced a special sound through this musical instrument to create and regulate the universe.

- In this application, the researchers have also shown that the nature of stiffness of a vibrating medium could be altered drastically by controlling the lattice micro-structure from regular honeycomb to auxetic honeycomb structure.
- This has wide applications in the field of vibration isolation in high speed trains, stealth submarines and helicopter rotors.

## [Artpark set up in Bengaluru](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

### **In news**

- An AI & Robotics Technologies Park (ARTPARK) was recently set up in Bengaluru.
- It will promote technology innovations in AI (Artificial Intelligence) & Robotics leading to societal impact by executing ambitious mission mode R&D projects.

### **Key takeaways**

- ARTPARK, is a unique not-for-profit foundation established by Indian Institute of Science (IISc), Bengaluru with support from AI Foundry in a public-private model.
- It received seed funding of Rs. 170 Cr (\$22mn) from Department of Science & Technology(DST), Govt. of India, under the [National Mission on Inter-disciplinary Cyber-Physical Systems](#) (NM-ICPS).
- It will bring about collaborative consortium of partners from industry, academia and government bodies.
- ARTPARK will develop DataSetu - that will enable confidentiality and privacy-preserving framework to share data and run analytics spurring the data-sharing ecosystem and create a data marketplace, boosting AI applications and solutions.

### **Important value addition**

#### **National Mission on Inter-Disciplinary Cyber-Physical Systems (NM-ICPS)**

- **Implemented by:** Department of Science & Technology
- **Period of:** five years
- NM-ICPS covers entire India which includes Central Ministries, State Governments, Industry and Academia.
- It would address technology development, application development, human resource development & skill enhancement, entrepreneurship and start-up development in Cyber Physical System (CPS) and associated technologies.
- **Aim:** Establishment of 15 Technology Innovation Hubs (TIH), six Application Innovation Hubs (AIH) and four Technology Translation Research Parks (TTRP).
- **Four focused areas:** (1) Technology Development; (2) HRD & Skill Development; (3) Innovation, Entrepreneurship & Start-ups Ecosystem Development; (4) International Collaborations.

## [Australian Square Kilometre Array Pathfinder \(ASKAP\) maps millions of galaxies](#)

**Part of:** GS Prelims and GS-III – Space; Sci & Tech



**In news**

- The Australian Square Kilometre Array Pathfinder (ASKAP) has recently mapped over three million galaxies in a record 300 hours during its first all-sky survey.
- ASKAP is a powerful telescope developed and operated by Australia's science agency CSIRO.

**Key takeaways**

- ASKAP is currently conducting pilot surveys of the sky before it can begin large-scale projects from 2021 onward.
- ASKAP surveys are designed to map the structure and evolution of the Universe, which it does by observing galaxies and the hydrogen gas that they contain.
- One of its most important features is its wide field of view.
- It has been able to take panoramic pictures of the sky in great detail.
- The telescope uses novel technology of a "radio camera" to achieve high survey speeds and consists of 36 dish antennas, which are each 12m in diameter.
- The present Rapid ASKAP Continuum Survey (RACS) taken by the ASKAP telescope is like a "Google map" of the Universe where most of the millions of star-like points are distant galaxies, about a million of which have not been seen before.

**HL-2M Tokamak: The Artificial Sun of China**

**Part of:** GS Prelims and GS-III – Sci & Tech

**In news**

- China successfully powered up its "artificial sun" nuclear fusion reactor for the first time marking a great advance in the country's nuclear power research capabilities.

**Key takeaways**

- The HL-2M Tokamak reactor is China's largest and most advanced nuclear fusion experimental research device.
- **Name of the mission:** Experimental Advanced Superconducting Tokamak (EAST).
- **Location:** Sichuan province
- The reactor is often called an "artificial sun" due to the enormous heat and power it produces.
- It uses a powerful magnetic field to fuse hot plasma and can reach temperatures of over 150 million degrees Celsius which is approximately ten times hotter than the core of the sun.
- Scientists hope that the device can potentially unlock a powerful clean energy source.

**Important value addition**

- Nuclear fusion is a reaction in which two or more atomic nuclei are combined to form one or more different atomic nuclei and subatomic particles (neutrons or protons).
- Fusion is the process by which the sun and other stars generate light and heat.
- It is a nuclear process, where energy is produced by smashing together light atoms.
- It is the opposite reaction of fission, where heavy elements like Uranium and Thorium are split apart.

- For a nuclear fusion reaction to occur, it is necessary to bring two nuclei so close that nuclear forces become active and glue the nuclei together.

#### Do you know?

- Nuclear forces are small-distance forces and have to act against the electrostatic forces where positively charged nuclei repel each other.
- This is the reason nuclear fusion reactions occur mostly in high density, high-temperature environment which is practically very difficult to achieve under laboratory conditions.



### [India and the geopolitics of technology](#)

**Context:** Splinternet, the balkanisation of the internet, digital sovereignty, and data localisation are some of the more popular terms that have come to define the debate on the future of data, and, more broadly, on the future of technology.

The argument boils down to the different ways in which governments and transnational organisations (such as EU) choose to access, use, and allow data to flow across borders.

#### Different Types of Digital Markets

- **Digital authoritarianists:** Countries that have closed their data markets to external actors — such as China — are commonly referred to as digital authoritarianists.

- **Digital democracies:** Those that are guided by judicial standards, the rule of law, and support the freer — but not always free — movement of data have come to be known as digital democracies.

### Digital Geopolitics and Data Diplomacy

- The political, ideological, and economic tensions between, and within, various categories of actors shape what might be called the geopolitics of technology
- This form of geopolitics is as much about competing domestic regulations, the renewed focus on anti-trust laws, and domestic standards on privacy legislations, as it is about international affairs.
- Greater cooperation on Artificial Intelligence (AI) or blockchain technologies, between entities in different countries, requires mediation and cooperation across borders. This is a matter of **data diplomacy**.
- At least 14 countries have appointed negotiators to shape data diplomacy.
- Designations such as tech ambassador, ambassador of innovations, ambassador for digital affairs, and ambassador for cyber diplomacy are becoming increasingly common.

### Huge Potential in India

- **Largest Digital Democracy:** All data economies want to deal with India as it the largest open data market in the world. Close to 600 million Indians currently use 4G data.
- **Increasing Data Consumption:** India also has the highest per capita consumption of data (above 10 GB per month) anywhere in the world.

### Challenges for India

- **Question of Data Openness:** A lot will depend on the kind of digital democracy that India aspires to be. How open or closed will it be to the movement of data across its borders, is the moot question for the fast-growing number of global “tech ambassadors”. To an extent, the question of data openness will be resolved as India’s Personal Data Protection Bill (PDPB) becomes a law, potentially in 2021.
- **Clarity on India’s Objectives:** India needs to consider what exactly it wants out of the fast-changing geopolitics around technology that goes beyond [banning Chinese apps](#). India’s evolving domestic data architecture should support its international interests, with the clear view to benefit from the same
- **Balancing Act:** The aim of India’s Data Policy must be to negotiate its weight in data and find the right balance for India’s future between localisation and internationalisation. This balancing act has much to do with conceptualising a centralising vision, as well as with administrative organisation.

### Way Forward

- To start with, the government could consider appointing its own coordinator for technology.
- The aim should not be to add to the bean count of global tech ambassadors, but to appoint at least a minister of state-ranked individual to synthesise India’s pulsating story with the view to effectively shape the geopolitics of technology.

### [Japan’s Hayabusa2 Mission set to return back to Earth](#)

**Part of:** GS Prelims and GS-III – Space  
**In news**

- Six years after Japan's Hayabusa2 mission was launched, it is set to return back to Earth.
- It will be carrying samples from the Ryugu asteroid that orbits the Sun.

**Key takeaways**

- The Hayabusa2 mission was launched in December 2014.
- The spacecraft was sent on a six-year-long voyage to study the asteroid Ryugu and collect samples.
- NASA's OSIRIS-REX mission also brought back samples from asteroid Bennu late in October, 2020.
- According to the Japanese Aerospace Exploration Agency (JAXA), this is the first time that a probe has visited a celestial body that is less than 100 metres in diameter.

**Important value addition**

- Ryugu is classified as a Potentially hazardous asteroids (PHAs).
- It was discovered in 1999.
- It was given the name by the Minor Planet Center in 2015.
- It is 300 million kilometres away from Earth.
- It took Hayabusa2 over 42 months to reach it.
- Hayabusa2's predecessor, the Hayabusa mission brought back samples from the asteroid Itokawa in 2010.

**Related article:**

- **Hayabusa2 probe:** [Click here](#)

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[Singapore Agency approves sale of Lab-Grown Meat](#)

**Part of:** GS Prelims and GS-III – Sci & Tech  
**In news**

- The Singapore Food Agency (SFA) has approved the sale of a lab-grown meat product.
- This is the first time cultured meat has been cleared for sale anywhere in the world.
- The product approved by the SFA is cultured chicken, produced by US-based East Just.

**Difference between lab-grown meat and plant-based meat**

- The latter is made from plant sources such as soy or pea protein, while cultured meat is grown directly from cells in a laboratory.
- **Both have the same objectives:** To offer alternatives to traditional meat products that could feed a lot more people, reduce the threat of zoonotic diseases, and mitigate the environmental impact of meat consumption.
- In terms of cellular structure, cultured meat is the same as conventional meat except that cultured meat does not come directly from animals.

- **Benefits:** (1) Cultivated meat could reduce land use by more than 95%; (2) It could reduce climate change emissions by 74-87% and nutrient pollution by 94%; (3) The risk of contamination by pathogens such as salmonella and E coli is significantly reduced; (4) It does not require antibiotics thereby reducing the threat posed to public health by growing antibiotic resistance.

## Space Exploration in the era of Privatisation

**Context:** The most stunning instance of a collaboration between public enterprises and the private sector in recent times is that between NASA and SpaceX.

### Recent achievements by Space X

- The launch of the [Crew Dragon spacecraft](#) which carried to the International Space Station four astronauts.
- The launch of 60 more Starlink Internet relay satellites into the orbit. The total number of such satellites sent up by the company equals 955. These, and thousands more like these, are designed for the purpose of providing broadband services to people anywhere on Earth.

### Structural changes that are reshaping the global space activity.

- Through the second half of the 20th century, outer space was the **sole preserve of national space programmes** driven by government-funding, direction and management
- As military uses of space and prestige projects like Moon-landing emerged, major **private sector entities** already in the aviation industry **won space contracts** in the US but under overall guidance & control of NASA & Pentagon
- The last decades of the 20th century saw significant **expansion of satellite-based telecommunication**, navigation, broadcasting and mapping, and lent a significant commercial dimension to the space sector.
- As a result, **private sector companies** (Ex: Space X) started playing **major role** in the sector like independent Space launches. Hired for a resupply mission for the space station, Space X now launches more rockets every year than NASA
- The entry of private sector has begun to drive down the cost-per-launch through innovations such as reusable rockets.
- As the digital revolution in the 21st century transformed the world economy, the commercial space sector has begun to grow in leaps and bounds.
- **The global space business** is now estimated to be around \$ 400 billion and is expected easily rise to at least trillion dollars by 2040. This has made private sector participation attractive and inevitable.

### What does the commercialisation of the space sector mean in practical terms?

- **Space Sector Revolutionized:** With its reusable rockets, large capsules to carry payloads and crew and competitive pricing, SpaceX has revolutionised the space sector.
- **Technology has brought down the Cost:** The price tag for reaching low Earth orbit has declined by a factor of 20 in a decade. NASA's space shuttle cost about \$54,500 per kg; now, SpaceX's Falcon 9 advertises a cost of \$2,720 per kg.
- **Increased Market:** According to a Bank of America Report, the \$350 billion space market today will touch \$2.7 trillion by 2050. In a decade, 80,000 such satellites could be in space compared to less than 3,000 at present
- **Telecom Revolution:** The aim of Starlink exercise is to provide Internet services that link any point on Earth to any other point. Targeting coverage in northern U.S. and Canada by end of

2020, the aim is to have the globe covered by 2021. This will be the new telecom revolution then, in the context of India, reaching out to rural areas as never before.

#### What is the picture in India?

- **Shift in Focus of ISRO:** There has also been a shift from a mandated focus on utilitarian projects to those focused on exploring space and our planetary neighbours, the Moon, the Sun and so on.
- **Increasing role of Private Players:** As a result of shift in ISRO's focus, we have seen the yielding of governmental control over the space industry bit by bit, starting from hiring of vendors and active outsourcing of rocket components to the present idea of allowing external agencies to use ISRO facilities.

#### Would curiosity-driven science survive in the era of privatisation?

- The cargo version of Dragon-2 spacecraft is the upgraded version of Dragon. It is a reusable spacecraft capable of returning significant cargo to the Earth from the International Space Station.
- At least in the case of its launch, planned for December 5, it seems that curiosity-driven science would not only survive, but would **rather be enhanced**.
- This spacecraft is not just carrying payloads for scientific experiments, but is also sporting a new **commercially owned and operated 'airlock'**.
- An **airlock is like a doorway**, and the new Nanoracks Bishop Airlock Module, built by a Texas-based company, Nanoracks LLC, is an improvement over what was used earlier.
- New Airlock will allow larger payloads to move in and out of the spacecraft, considerably expanding the scope of experiment design and structure.
- This mission also carries interesting experiments, one of which is a mixture of meteorite samples and microbes, aimed at seeing how the microbes can be used for biomining on asteroids. Another experiment aims at studying how changes in gravity can affect cardiovascular tissue
- So, while **there is room for curiosity-driven science**, there is also the aspect of utility in the event of more humans travelling to space.

#### Connecting the dots

- [IN-SPACe: Growing Private Role](#)
- Challenges with Outer Space: Click [here](#)

### [Jupiter and Saturn to be seen in Great Conjunction](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

#### In news

- In a rare celestial event, Jupiter and Saturn will be seen very close to each other (conjunction) on 21st December 2020, appearing like one bright star.

#### Key takeaways

- Conjunction occurs when two celestial bodies visually appear close to each other from Earth.
- Astronomers use the term great conjunction to describe meetings of the two biggest worlds in the solar system, Jupiter and Saturn.
- It happens about every 20 years.
- The conjunction is the result of the orbital paths of Jupiter and Saturn coming into line, as viewed from Earth.

- Jupiter orbits the sun about every 12 years, and Saturn about every 29 years.
- It will be the closest alignment of Saturn and Jupiter since 1623, in terms of distance.
- The next time the planets will be this close is 2080.
- They will appear to be close together, however, they will be more than 400 million miles apart.

## [BSNL announces Satellite-Based Narrow Band-IoT](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

### **In news**

- BSNL, in partnership with Skylotech India, announced a breakthrough in satellite-based NB-IoT (Narrow Band-Internet of Things).

### **Key takeaways**

- This is indigenously developed by Skylo.
- It will connect with BSNLs satellite- ground infrastructure and provide PAN-India coverage, including Indian seas.
- The coverage will be so vast that it will not leave any dark patch within the boundary of India.
- This is the world's first satellite-based NB-IoT network.
- This new technology supports India's plan of bringing indigenous IoT connectivity to India's core sectors.
- This technology has already been tested successfully in Indian Railways, fishing vessels, and enabling connected vehicles across India.
- A small, smart, incredibly rugged box, the Skylo 'User Terminal' interfaces with sensors and transmits data to the Skylo Network and into people's hands.

## [India's communication satellite CMS-01 was successfully launched by PSLV-C50](#)

**Part of:** GS Prelims and GS-III – Achievements of Indians in Sci & Tech

### **In news**

- India's communication satellite CMS-01 was successfully launched by PSLV-C50 recently from the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota.

### **Key takeaways**

- CMS-01 is envisaged to provide services in the extended-C Band of the frequency spectrum that will cover the Indian mainland, the Andaman and Nicobar and Lakshadweep Islands.
- It provides services like tele-education, tele-medicine, disaster management support and Satellite Internet access.
- It was India's 42nd communication satellite with a mission life of over seven years.
- The satellite will be placed in the specified slot in the geosynchronous orbit.
- Subsequently, it will function as the continuation of GSAT11 launched 11 years back.
- PSLV-C50 is the 52nd flight of PSLV and 22nd flight of PSLV in 'XL' configuration (with 6 strap-on motors).

● CMS-01 is the 42nd communication satellite from India

● Will replace GSAT-12 satellite, launched in 2011

● Will provide telecom services in the Extended-C Band of the frequency spectrum

● Extended-C Band coverage will include Indian mainland, Andaman-Nicobar and Lakshadweep Islands

● Mission life: 7 years

**PSLV-C50**

● **52nd** flight of PSLV

● **22nd** flight of PSLV 'XL' variant

**77 launch vehicle mission from Sriharikota spaceport**

## [Chang'e 5 returns with first fresh rock samples from the moon](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

### In news

- China's Chang'e 5 lunar mission returned to Earth carrying around 2 kilograms of the first fresh rock samples from the moon in 44 years.
- The spacecraft recently landed in Siziwang Banner, north China's Inner Mongolia Autonomous Region.

### Key takeaways

- The probe, named after the ancient Chinese goddess of the moon, first took off from the Wenchang Spacecraft Launch Site in Hainan on November 24th.
- Two of the Chang'e 5's four modules landed on the moon on 1st December and collected about 2 kilograms (4.4 pounds) of samples by scooping them from the surface and drilling 2 meters into the moon's crust.
- The samples were deposited in a sealed container that was carried back to the return module by an ascent vehicle.
- The retrieved re-entry capsule of Chang'e-5 will be airlifted to Beijing, where the capsule will be opened and the samples will be ready for analysis.
- With this, China became the third country after the United States and the Soviet Union, to collect lunar samples.



- These are also the first samples to be collected by any country after Russia in 1976.

#### Do you know?

- The samples were retrieved from a previously unvisited area of the moon.
- The latest samples come from a part of the moon known as the Oceanus Procellarum, or Ocean of Storms, near a site called the Mons Rumker that was believed to have been volcanic in ancient times.
- Mons Rumker, never sampled before, is geologically younger than the sampling areas of the U.S. and the Soviet missions.

### [ISRO released to public the initial data from Chandrayaan-2](#)

**Part of:** GS Prelims and GS-III – Sci & Tech

#### In news

- The Indian Space Research Organisation (ISRO) released to public the initial data from Chandrayaan-2.
- It was India's second Moon mission, which was launched on July 22, 2019.

#### Key takeaways

- The Orbiter, which was injected into a lunar orbit on September 2, 2019, carried eight experiments/payloads, all of which have been performing well and sending data received.
- The public release data archived at the Indian Space Science Data Center (ISSDC) in Byalalu (Bengaluru) is prepared in the standard, globally followed planetary data system-4 (PDS4) format for public release.
- The ISSDC is the nodal center of planetary data archive for planetary missions of ISRO.

#### Chandrayaan-2 key facts:

- 1st space mission to conduct a soft landing on the Moon's south polar region
- 1st Indian expedition to attempt a soft landing on the lunar surface with home-grown technology
- It is India's first interplanetary mission to be steered by two women: project director M Vanitha and mission director Ritu Karidhal.
- 1st Indian mission to explore the lunar terrain with home-grown technology
- 4th country ever to soft land on the lunar surface

### [BBX11: A gene that facilitates in the greening of plants](#)

**Part of:** GS Prelims and GS-III – Sci & tech

#### In news

- Researchers at the Indian Institute of Science Education and Research (IISER) have identified a gene that facilitates in the greening of plants.
- This gene plays a crucial role in regulating the levels of protochlorophyllide which is an intermediate in the biosynthesis of the green pigment chlorophyll.

**Key takeaways**

- IISER scientists have identified the gene 'BBX11'.
  - The study was recently published in the British journal New Phytologist.
  - The synthesis of chlorophyll in plants is a lengthy, multi-step process.
  - When a seedling emerges from under the soil it must quickly synthesise chlorophyll to start supporting its own growth.
  - In order to facilitate quick synthesis of chlorophyll, plants make a precursor of chlorophyll called 'protochlorophyllide' in the dark, which glows red when blue light is shone on the plant.
  - As soon as the plant comes out into the light from under the soil, light-dependent enzymes convert protochlorophyllide to chlorophyll.
  - The amount of protochlorophyllide synthesised needs to be proportional to the number of enzymes available to convert them to chlorophyll.
  - If there is excess of free protochlorophyllide, then exposure to light converts it into molecules that cause 'photobleaching'.
- 

### [Scientists find first possible radio signal from a planet beyond our solar system](#)

**Part of:** GS Prelims and GS-III – Sci & tech

**In news**

- An international team of scientists has collected the first possible radio signal from a planet beyond our solar system, emanating from an exoplanet system about 51 light-years away.

**Key takeaways**

- Using the Low Frequency Array (LOFAR), a radio telescope in the Netherlands, the researchers uncovered emission bursts from the Tau Bootes star-system hosting a so-called hot Jupiter, a gaseous giant planet that is very close to its own sun.
  - Tau Bootes is an F-type main-sequence star approximately 51 light-years away in the constellation of Bootes.
  - It is a binary star system, with the secondary star being a red dwarf.
  - If confirmed through follow-up observations, this radio detection opens up a new window on exoplanets and provides a novel way to examine alien worlds that are tens of light-years away.
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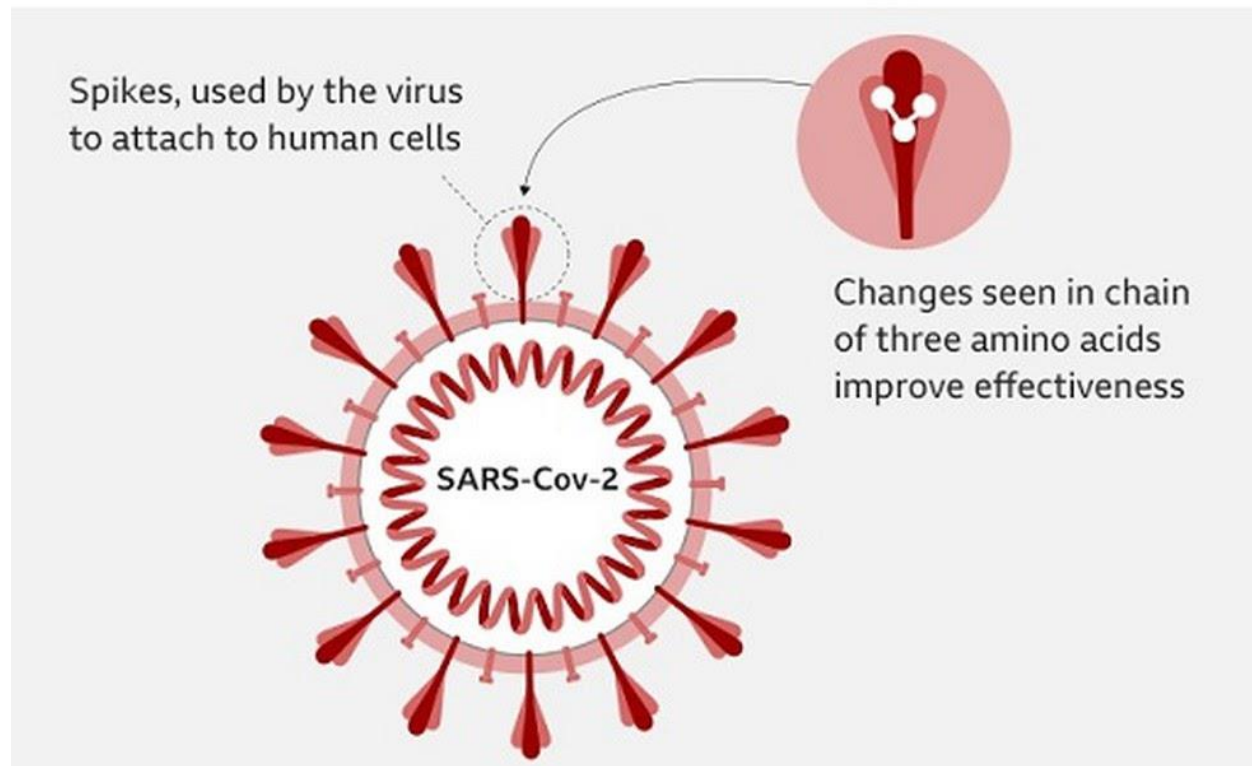
### [Coronavirus variant circulating in the UK defined by many mutations](#)

**Part of:** GS Prelims and GS-III – Sci & tech

**In news**

- The coronavirus variant circulating in the UK is defined by many mutations.

## One coronavirus mutation has become dominant



### Key takeaways

- A mutation means an alteration in genetic material.
- In an RNA virus such as SARS-CoV-2, proteins are made of a sequence of amino acids.
- Such a virus contains some 30,000 'base pairs', which are like bricks placed next to each other to form a structure.
- An alteration in this base can be a mutation, effectively changing the shape and behaviour of the virus.
- In the UK variant, one mutation has made the virus more likely to bind with human proteins called receptors. This is called N501Y.

### N501Y

- In simple words, the amino acid represented by the letter N, and present at position 501 in the coronavirus genetic structure, has been replaced in that position with another amino acid, represented by Y.
- The position where this alteration has taken place is in the spike protein's receptor-binding domain.
- Therefore, the mutation has increased the binding affinity of the coronavirus.
- The mutated virus reportedly accounts for 60% of recent infections in London.

### Do you know?

- According to the WHO, other than N501Y, mutations that “may influence the transmissibility of the virus in humans” are P681H and HV 69/70.
- **P681H:** This mutation has occurred in the amino acid present at 681. The amino acid P has been replaced with H.
- **HV 69/70:** This mutation is the result of a deletion of amino acids at positions 69 and 70.
- These positions are again in the spike protein of the virus.
- This deletion has been observed in France and South Africa as well.

## [USA's plan to have Nuclear Reactor On Moon](#)

**Part of:** GS Prelims and GS-III – Sci & tech

### **In news**

- USA’s plan to have the first nuclear reactor on the moon by the end of 2026 got a new push with a recent White House directive.
- USA President issued the “National Strategy for Space Nuclear Power and Propulsion.”
- US Department of Energy in collaboration with NASA also intends to solicit industry design proposals in early 2021 for the same purpose.

### **Key takeaways**

- Under the directive, NASA was asked to initiate fission surface power project for lunar surface demonstration by 2027 with scalability to a power range of 40 kilowatt-electric and higher to support a sustained lunar presence and exploration of Mars”.
- NASA aims to establish a flight hardware system that is ready for integrating with the lunar lander by 2026-end.
- The fission power system — as the nuclear reactor is called — will benefit future robotic and human exploration missions to the moon as well as Mars.
- The availability of safe, efficient, and readily available power is critical to these missions and a fission surface power system meets those requirements.
- The fission surface power system will be fully manufactured and assembled on earth and integrated on a lander as a payload.
- The system consists of four major subsystems including a nuclear reactor, an electric power conversion unit, heat rejection array, and power management and distribution subsystem.
- It will be designed to operate for up to 10 years.

## [Digital Ocean web-based application inaugurated](#)

**Part of:** GS Prelims and GS-II - Policies and interventions & GS-III – Sci & tech

### **In news**

- Web-based application Digital Ocean was recently inaugurated
- **Ministry:** Ministry of Earth Sciences
- **Developed by:** INCOIS of Earth Sciences Ministry

### **Key takeaways**

- Digital Ocean is a first of its kind digital platform for Ocean Data Management.
- It includes a set of applications developed to organize and present heterogeneous oceanographic data by adopting rapid advancements in geospatial technology.
- It facilitates an online interactive web-based environment for data integration, 3D and 4D data visualization, data analysis to assess the evolution of oceanographic features, data fusion and multi-format download of different kinds of data from multiple sources.
- 'Digital Ocean' will help to share knowledge about the ocean with a wide range of users.
- It also provides free access to information to the general public and the common man.

**Significance:**

- It will play a central role in sustainable management of our oceans and expanding our 'Blue Economy' initiatives.
- It will be promoted as a platform for capacity building on Ocean Data Management for all Indian Ocean Rim countries.

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## [Radio wave emission detected from the direction of Proxima Centauri](#)

**Part of:** GS Prelims and GS-III – Sci & tech

**In news**

- Astronomers at the \$100 million Breakthrough Listen project have recently picked up radio wave emission from the direction of Proxima Centauri, the closest star to our Sun.
- Breakthrough Listen project was started by physicist Stephen Hawking,


**Key takeaways**


- The news has sparked renewed interest in Proxima Centauri, one of whose planets is believed to revolve in the star's habitable zone, giving rise to the possibility that it could have, or does, sustain life.
- Proxima Centauri is 4.2 light-years away from the Sun.
- Its mass is about an eighth of the Sun's, and it is too dim to be seen with the naked eye from Earth.

**Important value additions****Proxima b**

- Proxima b, one of the two planets that revolve around the star, is the subject of significant curiosity.
- Sized 1.2 times larger than Earth, and orbiting its star every 11 days, Proxima b lies in Proxima Centauri's Goldilocks zone.

- Goldilocks zone is the area around a star where it is not too hot and not too cold for liquid water to exist on the surface of surrounding planets (e.g. Earth is in the Sun's Goldilocks zone).
- However, this does not mean for sure that water is present on Proxima b.
- It could also be hostile to life, if its atmosphere has been stripped away by solar flares from Proxima Centauri.






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## DEFENCE/INTERNAL SECURITY/SECURITY

### MARCOS being deployed in the Eastern Ladakh

**Part of:** GS Prelims and GS-III – Defence & Security

**In news**

- MARCOS are being deployed in the Eastern Ladakh alongside the Indian Army against the Chinese military.
- They are present in the vicinity of the Pangong Tso lake where they will soon be conducting missions using boats.

**Important value addition**

- The Marine Commandos are abbreviated as MARCOS and officially called the Marine Commando Force (MCF).
- It is the special forces unit of the Indian Navy that is responsible for conducting special operations.
- MARCOS was founded in February 1987.
- MARCOS are capable of operating in all types of environments; at sea, in air and on land.
- The force has gradually acquired experience and an international reputation for professionalism.
- The MARCOS regularly undertake specialised maritime operations in Jammu and Kashmir through the Jhelum River and Wular Lake.

### Government approves Deputy Chief of Strategy post

**Part of:** GS Prelims and GS-III – Defence & Security

**In news**

- A major restructure at the Army Headquarters has finally been approved by the government.

**Key takeaways**

- The government has given its nod to create the position of a third Deputy Chief of Army.
- He will act as a “single-point advice” person to the Vice Chief of Army on operational issues.
- He will head operations, intelligence, perspective and information warfare.
- The Directorate General of Military Operations and the Directorate General of Military Intelligence, both headed by Lieutenant General-rank officers, will be under him.
- Two new offices, for Perspective Planning and Strategic Communications, which will also be headed by director generals of Lt Gen-rank, will also come under the new Deputy Chief.
- The changes will start rolling out immediately.
- Current DGMO Lt Gen Paramjit Singh is likely to be appointed the first Deputy Chief (Strategy).

## Khalistan threat: Need for Constant vigilance

**Context:** The arrest of five terror suspects in Delhi — two of whom were allegedly involved in the murder of Shaurya Chakra awardee Balwinder Singh in Punjab in October — has turned the spotlight on the embers of the long dead and buried Khalistan movement

### **What is Khalistan movement?**

- The Khalistan movement is a Sikh separatist movement seeking to create a homeland for Sikhs by establishing a sovereign state, called Khalistān in the Punjab Region. Such a state existed in Punjab from 1709 to 1849.

### **What are the historical events responsible for Khalistan?**

- **1947 Partition of India** -Independence of India was not a joyful event for Sikhs, partition left Sikhs in a lot of discontentment with regard to their traditional lands being lost to Pakistan.
- The fight for a separate Sikh state owes its origins to the **Punjabi Suba Movement**. The Akali Dal – a Sikh-dominated political party – sought to create a separate Sikh Suba or Province.
- When the **States Reorganization Commission**, constituted to assess the demand for separate states by linguistic groups, made its recommendations, it rejected the Akali Dal's demand.
- But after a series of violent protests, the Indira Gandhi government relented in 1966.
- **The state was trifurcated** into Punjabi-majority Punjab, Hindi-majority Haryana and the Union Territory of Chandigarh. Some hilly regions of the state were merged into Himachal Pradesh.
- However, the Anadpur Sahib resolution reignited the passion of Sikhs and sowed the seeds of Khalistan movement

### **What was the Anandpur Sahib Resolution?**

- The Punjab Suba movement galvanised considerable political support for the Akali Dal and after a brief split, the party came together under Parkash Singh Badal's leadership, giving the Congress a tough fight in the 1967 and 1969 assembly elections.
- The 1972 election, however, proved to be blip in the Akalis' rising political graph. The Congress swept to power, prompting the Akali Dal to introspect.
- The venue for this introspection was the Anandpur Sahib Gurudwara, where the party adopted a resolution that would serve as a blueprint for the party's future agenda.
- The resolution **demanding autonomy for the state of Punjab**, identified regions that would be part of a separate state, and sought the right to frame its own internal constitution. This was the Anandpur Sahib Resolution.

### **Who Was Jarnail Singh Bhindranwale?**

- While its original authors may have abandoned its stated aims, the Anandpur Sahib resolution found an admirer in Jarnail Singh Bhindranwale – a religious scholar who'd been travelling across Punjab advocating a return to the Khalsa or a more orthodox form of Sikhism.
- He targeted Hindus and 'modernised' Sikhs, who cut their hair and consumed alcohol in equal measure.
- If the Akalis were a moderate faction espousing Sikh pride and politics, Bhindranwale represented the extremist view that among other things called for a separate state.
- Jarnail Singh Bhindranwale inspired by the Khalistan ideology led the Khalistan as an extremist movement and turned against Indian government
- Demands for separate nation-hood for Punjab was carried out through violent protests and killings of high profile persons in Indian government.

### **What are the events which intensified Khalistan movement?**



- Jarnail Singh Bhindranwale took **up residence inside the Golden temple**, directing demonstrations and police clashes.
- **Operation Blue star** was conducted to capture Bhindranwale in Golden Temple Complex, but the operation resulted in a strong anti-India sentiment.
- The then PM Indira Gandhi was seen as an enemy of the Sikhs and two Sikh guards of her **assassinated her in 1984**.
- Her killing was followed by wide-spread **riots against the Sikhs in Delhi** & other parts, the genocide of Sikhs across India fuelled more anti-India sentiment.
- From early 1980s to early 1990s, Punjab went through a phase of wide-spread terrorism, where **Pakistan's ISI tried to foment the violence** by providing support to extremist groups (it was also the same time that Pakistan began to use terrorism as its strategy to defeat India in Kashmir)
- Manifold extremist groups like the Khalistan Liberation Force, Khalistan Commando Force, Babbar Khalsa and umpteen others gained prominence and roamed around freely across Punjab.
- On 31 August 1995, a suicide bomber took out Punjab CM Beant Singh inside the Punjab civil secretariat in Chandigarh. Singh was credited with wiping out terrorism, which had spiked in the aftermath of Operation Bluestar.
- Sikhs being a **patriotic group** started to act against the protracted terrorist struggle and chose to side with the Indian nation, the then Punjab Police department succeeded in **defeating the movement in 1990s**.

#### What is present status of the movement?

- At the present, Khalistan movement is a dormant movement in India.
- It does not hold much traction in the urban or local populace of Punjab. .
- But the movement gets ideological support from Sikhs living in Canada, UK or USA.
- They pump money, ideological support to the struggle, ISI of Pakistan is still pumping money and effort in reviving the movement.

#### Challenges Ahead

- The Delhi police have claimed that Pakistan's Inter-Services Intelligence (ISI) is seeking yet again to link up terror outfits in Kashmir with pro-Khalistan activists.
- The irrelevance of the Khalistan movement notwithstanding, agencies such as the Pakistan's ISI have not stopped trying to foment violence, either directly by funding fringe sections or by linking them with terror groups in Kashmir.
- Even if the Khalistan movement has been interred, the threat of terror in Kashmir remains well and truly active.

#### Conclusion

The Khalistan movement is non-existent, but security agencies must watch fringe sections

#### [USA imposes sanctions on Turkey over S-400 Air Defence Missile System](#)

**Part of:** GS Prelims and GS-II – International Relations & GS-III – Defence and Security

**In news**

- The United States has imposed sanctions on Turkey on Monday over its acquisition of Russian S-400 air defence systems.

### Key takeaways

- The S-400 Triumf is a mobile, surface-to-air missile system (SAM) designed by Russia.
- It is the most dangerous operationally deployed modern long-range SAM (MLR SAM) in the world, considered much ahead of the US-developed Terminal High Altitude Area Defense system (THAAD).
- The system can engage all types of aerial targets including aircraft, unmanned aerial vehicles – UAV, ballistic and cruise missiles - within the range of 400km, at an altitude of up to 30km.
- The system can track 100 airborne targets and engage six of them simultaneously.
- The defence system integrates multifunction radar, autonomous detection and targeting systems, anti-aircraft missile systems, launchers, and command and control centre.
- It is capable of firing three types of missiles to create a layered defence.



### [Indigenously developed DRDO systems handed over to Army, Navy and Air Force](#)

**Part of:** GS Prelims and GS-III – Defence and Security

#### **In news**

- The Union Defence minister recently handed over three indigenously developed Defence Research and Development Organisation (DRDO) systems to Army, Navy and Air Force.

### Key takeaways

- The Minister handed over the Indian Maritime Situational Awareness System (IMSAS) to the Chief of Naval Staff , ASTRA Mk-I Missile to Air Chief Marshal and Border Surveillance System (BOSS) to the Chief of Army Staff.
- **BOSS** is An all-weather electronic surveillance system.
- The system facilitates monitoring and surveillance by automatically detecting the intrusions in harsh high-altitude sub-zero temperature areas with remote operation capability.
- The **IMSAS** is high performance intelligent software system that provides Global Maritime Situational Picture, Marine planning tools and Analytical capabilities to Indian Navy.
- The **ASTRA Mk-I** is the indigenously developed first Beyond Visual Range (BVR) Missile, which can be launched from Sukhoi-30, Light Combat Aircraft (LCA), Mig-29 and Mig-29K.

## SolarWinds Hack: A cyberattack discovered in the USA

**Part of:** GS Prelims and GS-III – Cybersecurity

**In news**

- The ‘SolarWinds hack’, a cyberattack recently discovered in the USA.
- It has emerged as one of the biggest ever targeted against the US government, its agencies and several other private companies.
- It is likely a global cyberattack.

**Key takeaways**

- This is being called a ‘Supply Chain’ attack.
- Instead of directly attacking the federal government or a private organisation’s network, the hackers target a third-party vendor, which supplies software to them.
- In this case, the target was an IT management software called Orion, supplied by the Texas-based company SolarWinds.
- Orion has been a dominant software from SolarWinds with clients, which include over 33,000 companies.
- The hackers gained “access to victims via trojanized updates to SolarWinds’ Orion IT monitoring and management software.
- Once installed, the malware gave a backdoor entry to the hackers to the systems and networks of SolarWinds’ customers.

## The Defence Acquisition Council (DAC) approves proposals to procure equipment

**Part of:** GS Prelims and GS-III – Defence & Security

**In news**

- The Defence Acquisition Council (DAC) in its meeting approved proposals to procure equipment worth Rs 28,000 crore.
- **Ministry:** Ministry of Defence

**Key takeaways**

- Acquisition proposals approved include the DRDO designed and developed Airborne Early Warning & Control (AEW&C) Systems for the Indian Air Force, Next Generation Offshore Patrol Vessels for the Indian Navy and Modular Bridges for the Indian Army.

- This is the first meeting of the DAC under the new regime of Defence Acquisition Procedure 2020.
- These are the first set of Acceptance of Necessity (AoNs) accorded.
- Majority of AoNs are being accorded in the highest categorization of Buy Indian (IDDM).
- 6 of the 7 proposals for which AoNs were granted will be sourced from the Indian industry to give a boost to the “Make in India” and “Atmanirbhar Bharat” initiatives of the Government.

**Related articles:**

- Defence Acquisition Council: [Click here](#)
- Critically analyse Defence Procurement Policy: [Click here](#)

## [Medium Range Surface To Air Missile \(MRSAM\) launched](#)

**Part of:** GS Prelims and GS-III – Defence and Security

**In news**

- DRDO recently achieved a major milestone with the maiden launch of Medium Range Surface to Air Missile (MRSAM), Army Version from Integrated Test Range, Chandipur, off the Coast of Odisha.

**Key takeaways**

- The missile completely destroyed a high speed unmanned aerial target which was mimicking an aircraft with a direct hit.
- Army version of MRSAM is a surface to Air Missile developed jointly by DRDO, India and IAI, Israel for use of the Indian Army.

- MRSAM Army weapon system comprises of Command post, Multi-Function Radar and Mobile Launcher system.
- 

## [Baroda Military Salary Package](#)

**Part of:** GS Prelims and GS-III – Economy; Defence and Security

### **In news**

- Indian Army and Bank of Baroda have entered into a Memorandum of Understanding (MoU) for 'Baroda Military Salary Package'.

### **Key takeaways**

- The MoU lays down the basis on which banking services would be provided by Bank of Baroda to serving and retired personnel of Indian Army.
  - Services under 'Baroda Military Salary Package' will be offered to serving and retired personnel of Indian Army through the Bank's network.
  - **The benefits include:** Free Personal Accidental Insurance cover, Permanent Total Disability cover, Partial disability Cover and Higher Education Cover and Girl Child Marriage Cover on death in case of serving personnel.
  - **Other offerings:** Unlimited free ATM transactions at all bank ATMs, waivers or concessions on various service charges in retail loans, free remittance facility through RTGS/NEFT, free Demand Draft/Banker's Cheque, substantial discount in locker rentals, and various additional benefits in usage of Cards.
- 

## [Indian Army to request waiver to take Kamov-226T Utility Helicopters](#)

**Part of:** GS Prelims and GS-III –Defence and Security

### **In news**

- The Indian Army is going to approach the Defence Ministry for a waiver to take the Kamov-226T (Ka-226T) utility helicopters with Russia.

### **Key takeaways**

- In 2015, India and Russia concluded an Inter-Governmental Agreement (IGA) for 200 Ka-226T helicopters estimated to cost over USD 1 billion.
- The Kamov-226T is meant to replace Cheetah and Chetak fleets of the Indian Army and the Air Force.
- The Ka-226T is a design of Russia's famed Kamov design bureau.
- It is a light helicopter, with a maximum take-off weight of over 3.5 tonnes and can carry a payload of up to 1 tonne.
- The Ka-226T uses coaxial rotors which is especially advantageous in high-altitude environments.
- The Ka-226T also has a unique, detachable 'mission' compartment which allows the helicopter to be adapted for different roles such as surveillance and cargo delivery.

### **Issues with the Old Fleet of Helicopters**

- About 75% of the Army's fleet of Cheetah and Chetak helicopters is over 30 years old which need urgent replacements.
  - Operational capability has been impacted due to deficiencies and non-availability of replacement.
- 

## US Cyber Attack: SolarWinds hack

**Context:** SolarWinds, a major US information technology firm, was the subject of a cyberattack that spread to its clients and went undetected for months

### **An unusual hack**

- Earlier this year, hackers secretly broke into Texas-based SolarWind's systems and added malicious code into the company's software system.
- The system, called "**Orion**," is **widely used by companies to manage IT resources**. Solarwinds has 33,000 customers that use Orion
- Most software providers regularly **send out updates to their systems**, whether it's fixing a bug or adding new features. SolarWinds is no exception.
- Beginning as early as March 2020, SolarWinds unwittingly sent out software updates to its customers that **included the hacked code**.
- A private cybersecurity firm called FireEye was the first to notice the breach in Dec 2020 when it noticed that its own systems were hacked.
- The code **created a backdoor to customer's information technology systems**, which hackers then used to install even more malware that helped them spy on companies and organizations.

### **The victims**

- SolarWinds told the US regulatory authorities that up to 18,000 of its customers installed updates that left them vulnerable to hackers.
- Since SolarWinds has many high profile clients, including Fortune 500 companies and multiple agencies in the US government, the breach could be massive.
- **US agencies**, including parts of the Pentagon, the Department of Homeland Security, the State Department, the Department of Energy, the National Nuclear Security Administration, and the Treasury were attacked.
- So were **private companies**, like Microsoft, Cisco, Intel, and Deloitte, and other organizations like the California Department of State Hospitals, and Kent State University.
- And since the hack was done so stealthily, and went undetected for months, security experts say that some victims may never know if they were hacked or not

### **Who did it?**

- Federal investigators and cybersecurity experts say that **Russia's Foreign Intelligence Service, known as the SVR**, is probably responsible for the attack.
- Russian intelligence was also credited with breaking into the email servers in the White House, the State Department, and the Joint Chiefs of Staff **in 2014 and 2015**.
- Later, the same group attacked the Democratic National Committee and members of the Hilary Clinton presidential campaign.

- **Russia has denied any involvement** with the breach and President Trump has suggested, without evidence, that Chinese hackers may be the culprits.

#### Why it matters?

- Now that multiple networks have been penetrated, **it's expensive** and very difficult to secure systems.
- There are fears that, with access to government networks, hackers could, "**destroy or alter data**, and impersonate legitimate people".
- Not only is the breach one of the largest in recent memory, but it also comes as a wake-up call for federal cybersecurity efforts.
- The **US Cyber Command**, which receives billions of dollars in funding and is tasked with protecting American networks, was "blindsided" by the attack. Thus, the hack could accelerate broad changes in the cybersecurity apparatus.
- The **US government may reorganize its cybersecurity efforts** by making the Cyber Command independent from National Security Agency
- Companies are turning to a new method of assuming that there are already breaches, rather than merely reacting to attacks after they are found

#### [Cabinet Approves Export of Akash Missile System](#)

**Part of:** GS Prelims and GS-III –Trade; Defence and Security

#### In news

- Recently, Cabinet approved export of Akash Missile System.
- Under the Atma Nirbhar Bharat, India is growing in its capabilities of manufacturing wide variety of Defence platforms and missiles.

#### Key takeaways

- Akash is country's important missile with over 96% indigenisation.
- Akash is a Surface to Air Missile with a range of 25 Kms.
- The missile was inducted in 2014 in IAF and in 2015 in Indian Army
- A Committee is created for faster approval of exports.
- This Committee would authorise subsequent exports of major indigenous platforms to various countries.
- The Committee would also explore various available options including the Government-to-Government route.
- Government of India intends to focus on exporting high value defence platforms, to achieve target of 5 Billion USD of defence export and improve strategic relations with friendly foreign countries.
- The export version of Akash will be different from System currently deployed with Indian Armed Forces.

## MISCELLANEOUS

In News	Description
1. Cyclonic storm 'Burevi'	<ul style="list-style-type: none"> <li>• The Deep Depression over southwest Bay of Bengal recently intensified into Cyclonic Storm 'Burevi'.</li> <li>• The India Meteorological Department (IMD) announced that a cyclone brewing in the Bay of Bengal is likely to affect Tamil Nadu and Kerala, less than a week after cyclone Nivar wreaked havoc in the southern states.</li> <li>• The cyclone will cross the Sri Lanka coast on December 2 and bring heavy rain over Tamil Nadu and Kerala.</li> </ul>
2. Aadi Mahotsav	<ul style="list-style-type: none"> <li>• Union Minister for Tribal Affairs launched the Aadi Mahotsav is a national tribal festival.</li> <li>• It is a joint initiative of Ministry of Tribal Affairs, Government of India &amp; Tribal Cooperative Marketing Development Federation of India (TRIFED).</li> <li>• The Aadi Mahotsav initiative was commenced in 2017.</li> <li>• The festival showcases traditional art and handicrafts and cultural heritage of the country.</li> <li>• It is an attempt to familiarise the people with the rich and diverse craft, culture of the tribal communities across the country, in one place.</li> <li>• Virtual edition of Aadi Mahotsav- Madhya Pradesh was recently launched.</li> </ul>
3. Ramayan Cruise Tour	<ul style="list-style-type: none"> <li>• 'Ramayan Cruise Tour' on the Saryu river in Ayodhya will be launched soon.</li> <li>• Ministry: Ministry of Ports, Shipping and Waterways</li> <li>• The Sarayu is a river that originates in Uttarakhand.</li> <li>• It flows through Uttar Pradesh in India.</li> <li>• It is a tributary of the Sharda River.</li> </ul>
4. Kaavan	<ul style="list-style-type: none"> <li>• Following years of public outcry and campaigning, the "world's loneliest elephant" embarked on a mammoth move from Pakistan to retirement in a Cambodian sanctuary.</li> <li>• Kaavan is dubbed the "world's loneliest elephant" after languishing alone for years in a Pakistani zoo.</li> </ul>
5. BNT162b2	<ul style="list-style-type: none"> <li>• Britain became the first country in the world to approve the Pfizer-BioNTech Covid-19 vaccine for use.</li> <li>• It will be rolled out from early next week.</li> <li>• The British regulator Medicines and Healthcare products Regulatory Agency (MHRA) declared that the vaccine offers protection of up to 95% and is safe to be used for immunisation against Covid-19.</li> </ul>



	<ul style="list-style-type: none"> <li>• The American pharmaceutical giant Pfizer and its German partner BioNTech last month concluded phase 3 study of their mRNA-based Covid-19 vaccine candidate BNT162b2, meeting all primary efficacy endpoints.</li> <li>• It is an RNA vaccine composed of nucleoside-modified mRNA encoding a mutated form of the spike protein of SARS-CoV-2, and is encapsulated in lipid nanoparticles.</li> </ul>
6. Arecibo Telescope	<ul style="list-style-type: none"> <li>• Puerto Rico's massive Arecibo telescope, famous for its stellar contributions to astronomy recently collapsed.</li> <li>• It is the second-largest single-dish radio telescope in the world.</li> <li>• Arecibo was first built in 1963.</li> <li>• Owned by: The US National Science Foundation</li> <li>• It was employed to observe planets, asteroids and the ionosphere.</li> <li>• It had found prebiotic molecules in distant galaxies, the first exoplanets, and the first millisecond pulsar.</li> <li>• In 1967, Arecibo was able to discover that the planet Mercury rotates in 59 days and not 88 days as had been originally thought.</li> <li>• In 1993, scientists Russell Hulse and Joseph Taylor were awarded the Nobel Prize in Physics for their work on the observatory in monitoring a binary pulsar, providing a strict test of Einstein's Theory of General Relativity and the first evidence for the existence of gravitational waves.</li> </ul>
7. Operation Trident	<ul style="list-style-type: none"> <li>• Every year, India celebrates December 4 as Navy Day to commemorate Operation Trident.</li> <li>• It was a key offensive during the 1971 India-Pakistan War, when the Indian Navy inflicted heavy damage on Pakistani vessels in Karachi harbour.</li> <li>• On December 4, under Operation Trident, the Indian Navy sank three vessels near the Pakistani port city of Karachi.</li> <li>• The stars of the mission were the then-recently acquired Soviet Osa missile boats, fitted with 4 SS-N-2 (P-15) Styx missiles.</li> </ul>
8. Mount Everest reported to be 86cm higher	<ul style="list-style-type: none"> <li>• The Foreign Ministers of Nepal and China jointly certified the elevation of Mount Everest at 8,848.86 metres above sea level — 86 cm higher than what was recognised since 1954.</li> <li>• The earlier height was determined by the Survey of India in 1954, using instruments like theodolites and chains.</li> <li>• The devastating earthquake of April 2015 triggered a debate among scientists on whether it had affected the height of the mountain.</li> <li>• Mount Everest is Earth's highest mountain above sea level, located in the Mahalangur Himal sub-range of the Himalayas.</li> <li>• The China–Nepal border runs across its summit point.</li> </ul>

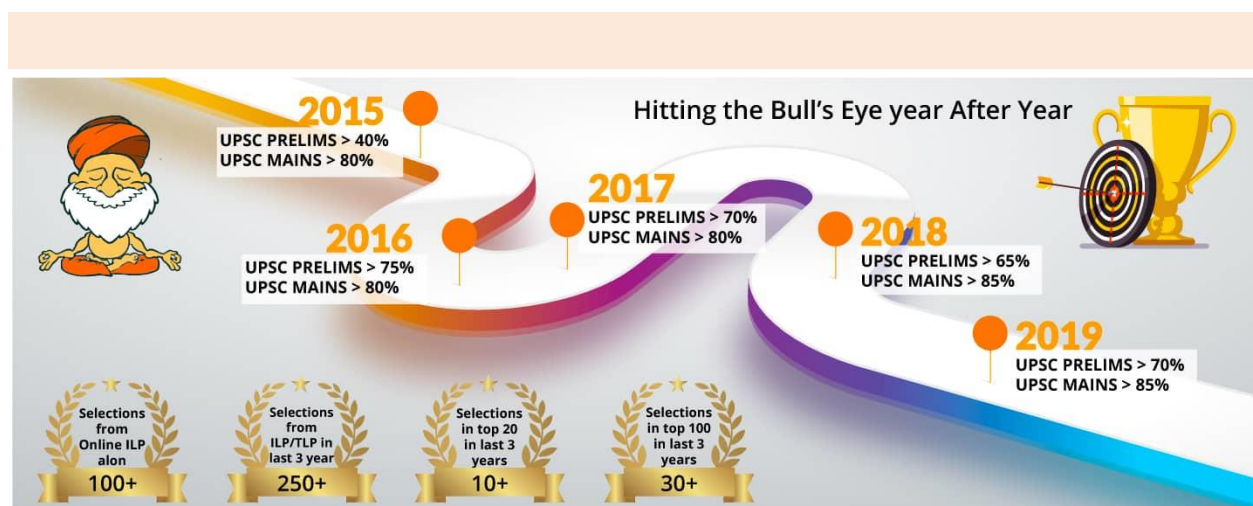
9. Global Teacher Prize 2020	<ul style="list-style-type: none"> <li>• A primary school teacher from Maharashtra's Solapur district has won the one-million US dollar Global Teacher Prize 2020 for promoting girls' education.</li> <li>• Ranjitsinh Disale from Paritewadi village, was awarded in recognition of his efforts to promote girls' education and initiating a quick-response (QR) coded textbook revolution in India.</li> <li>• He has announced that he will share half of the one million dollar award money with the nine other finalists so that they too may continue their good work.</li> <li>• The award was established by the London-based Varkey Foundation and is given in partnership with UNESCO.</li> <li>• In the past, Disale had been named as the Innovative Researcher of the Year 2016 and has featured in the Satya Nadella's book 'Hit Refresh'.</li> </ul>
10. CO-WIN	<ul style="list-style-type: none"> <li>• The Indian Government has introduced a new digital platform called 'CO-WIN' for COVID-19 vaccine delivery.</li> <li>• There will be a new mobile app as well with the same name that will allow people to register for the vaccine.</li> <li>• The CO-WIN app is expected to be publicly available soon.</li> <li>• The platform will be used for recording vaccine data and will form a database of healthcare workers too.</li> <li>• All COVID-19 related data necessary for the delivery of the vaccine is presently being uploaded on the CO-WIN platform.</li> <li>• The app will have separate modules for administrator, registration, vaccination, beneficiary acknowledgement and reports.</li> <li>• Once people start to register for the app, the platform will upload bulk data on co-morbidity provided by local authorities.</li> </ul>
11. Human Rights Day	<ul style="list-style-type: none"> <li>• Human Rights Day was celebrated by the National Human Rights Commission (NHRC).</li> <li>• It is celebrated on the 10th December every year to commemorate the Universal Declaration of Human Rights (UDHR).</li> <li>• The Declaration recognizes that the inherent dignity and the equal and inalienable rights of mankind are the foundation of justice, freedom and peace in the world.</li> <li>• 2020 Theme: Recover Better - Stand Up for Human Rights.</li> </ul>
12. National Human Rights Commission of India (NHRC)	<ul style="list-style-type: none"> <li>• Since its inception on the 12th October, 1993, the National Human Rights Commission of India (NHRC) has endeavoured to promote a culture of human rights.</li> <li>• The NHRC is a recommendatory body as per the Protection of Human Rights Act passed by Parliament.</li> </ul>
13. UNESCO Award For	<ul style="list-style-type: none"> <li>• The UNESCO has decided to launch an international prize in the field</li> </ul>

Creative Economy	<p>of 'creative economy' in the name of Bangabandhu Sheikh Mujibur Rahman.</p> <ul style="list-style-type: none"> <li>• It shall start from November 2021.</li> <li>• The \$50,000 award will be given away once in two years for global economic initiatives of the youth.</li> <li>• The award will recognise exceptional initiatives taken by cultural workers and organizations in the development of the creative economy.</li> <li>• UNESCO has declared 2021 as 'International Year of Creative Economy for Sustainable Development'.</li> </ul>
14. Sheikh Mujibur Rahman	<ul style="list-style-type: none"> <li>• He was a Bangladeshi politician and statesman.</li> <li>• He is called the "Father of the Nation" in Bangladesh.</li> <li>• He served as the first President of Bangladesh and later as the Prime Minister of Bangladesh from 1971 - 1975</li> <li>• He was assassinated on 15 August 1975.</li> <li>• He is considered to be the driving force behind the independence of Bangladesh.</li> <li>• He is popularly dubbed with the title of "Bangabandhu" by the people of Bangladesh.</li> </ul>
15. Geminids Meteor Shower	<ul style="list-style-type: none"> <li>• The Geminids meteor shower was in news recently.</li> <li>• It is believed to be the strongest of the year which is active from December 4-December 20.</li> <li>• The Geminids meteor showers are unique because their origin does not lie in a comet, but what is believed to be an asteroid or an extinct comet.</li> <li>• The Geminids emerge from 3200 Phaethon, which meteor scientists consider to be an asteroid.</li> <li>• Meteors are bits of rock and ice that are ejected from comets as they manoeuvre around their orbits around the sun.</li> <li>• When a meteor reaches the Earth, it is called a meteorite and a series of meteorites, when encountered at once, is termed a meteor shower.</li> </ul>
16. Himgiri	<ul style="list-style-type: none"> <li>• 'Himgiri' is the first of the three Project 17A ships being built at M/s Garden Reach Shipbuilders and Engineers Limited (GRSE), Kolkata.</li> <li>• It was launched on 14 December 2020.</li> <li>• Under the Project 17A program, a total of seven ships are being built with enhanced stealth features, advanced indigenous weapon and sensor fit along with several other improvements.</li> <li>• P17A ships are the first gas turbine propulsion and largest combat platforms ever built at GRSE.</li> </ul>

17. Vijay Diwas	<ul style="list-style-type: none"> <li>• India celebrated Vijay Diwas recently (December 16) to mark victory of 1971 Bangladesh liberation war.</li> <li>• In December 1971, the Indian Armed Forces secured a decisive and historic Victory over Pakistan Army, which led to creation of a Nation-Bangladesh and also resulted in the largest Military Surrender after the World War-II.</li> </ul>
18. Winter Solstice	<ul style="list-style-type: none"> <li>• December 21 was Winter Solstice, the shortest day of the year in the Northern Hemisphere.</li> <li>• In the Southern Hemisphere, conversely, December 21 was Summer Solstice, the year's longest day.</li> <li>• The Earth's axis of rotation is tilted at an angle of 23.5 degrees away from the perpendicular.</li> <li>• This tilt, Earth's spin and orbit leads to variations in the duration of Sunlight that any location on the planet receives on different days of the year.</li> <li>• The winter solstice or hiemal solstice or hibernal solstice occurs when one of the Earth's poles has its maximum tilt away from the Sun.</li> <li>• It happens twice yearly, once in each hemisphere (Northern and Southern).</li> <li>• Its opposite is the summer solstice.</li> </ul>
19. Gurudwara Rakab Ganj Sahib	<ul style="list-style-type: none"> <li>• Indian Prime Minister visited historic Gurudwara Rakab Ganj Sahib in New Delhi where the pious Sri Guru Teg Bahadur Ji's mortal remains were cremated.</li> <li>• It is a historic gurudwara near Parliament House, New Delhi.</li> <li>• It was built in 1783, after Sikh military leader Baghel Singh Dhaliwal (1730–1802) captured Delhi, on 11 March 1783.</li> <li>• This one marks the site of cremation of the ninth Sikh Guru, Guru Tegh Bahadur.</li> </ul>
20. 'Legion Of Merit' Award	<ul style="list-style-type: none"> <li>• US President presented the prestigious Legion of Merit award to Indian Prime Minister.</li> <li>• Mr. Narendra Modi was presented with the highest degree Chief Commander of the Legion of Merit which is given only to the Head of State or Government.</li> <li>• The US President also presented the Legion of Merit to Australian Prime Minister Scott Morrison and the former Japanese Prime Minister Shinzo Abe.</li> </ul>
21. Shaheen-IX	<ul style="list-style-type: none"> <li>• Shaheen-IX is joint air exercise between China and Pakistan.</li> <li>• China defended "Shaheen-IX" exercise with Pakistan air force as a routine arrangement, which experts believe is reflective of a larger strategic posture towards India.</li> <li>• It is being held in Pakistan's southern Sindh province near Indian</li> </ul>

	<p>border.</p> <ul style="list-style-type: none"> <li>India recently hosted the Malabar 2020 naval exercise with the U.S., Japan and Australia which was termed by a Chinese state media as an ill-intentioned attempt to corner China.</li> </ul>
22. Abdul Rahim Khan-I-Khana	<ul style="list-style-type: none"> <li>Rahim Khan's tomb was opened to the public after six years of restoration work — perhaps the largest conservation project ever undertaken for any monument of national importance in India.</li> <li>Abdul Rahim Khan-i-Khana (1556 – 1627), popularly known as simply Rahim, was a poet who lived in India during the rule of Mughal emperor Akbar.</li> <li>Abdul Rahim was the son of Bairam Khan, Akbar's trusted guardian and mentor.</li> <li>He was one of the nine important ministers (dewan) in Akbar's court, also known as the Navaratnas.</li> <li>Rahim is known for his Hindi dohe (couplets) and his books on astrology.</li> <li>Rahim also translated Babar's memoirs, Baburnama from Chagatai language to Persian language.</li> <li>In Sanskrit, he wrote two books on astrology, Khetakautukam and Dwatrimshadyogavali.</li> </ul>
23. Tomb of Abdul Rahim Khan-I-Khana.	<ul style="list-style-type: none"> <li>His tomb is situated near Humayun's Tomb, in New Delhi.</li> <li>It was built by him for his wife in 1598, and his body was placed in it in 1627.</li> <li>It was the first Mughal tomb built for a woman.</li> </ul>
24. Navies of India, Vietnam to hold passage exercise.	<ul style="list-style-type: none"> <li>Indian Navy ship INS Kiltan, which arrived in Vietnam recently to deliver relief material under Mission Sagar-III, will hold a Passage Exercise (PASSEX) with the Vietnamese Navy in the South China Sea (SCS).</li> <li>INS Kiltan arrived at port Nha Rong and will deliver 15 tonnes of Humanitarian Assistance and Disaster Relief (HADR) material to Vietnam's central steering committee for national disaster prevention and control.</li> <li>The current visit seeks to enhance maritime cooperation between the two Navies.</li> <li>It will further enhance the strong bonds of friendship between the two countries and contribute to security and stability in the region.</li> </ul>
25. India International Science Festival (IISF)-2020 concluded.	<ul style="list-style-type: none"> <li>The 6th edition of India International Science Festival (IISF-2020) concluded recently.</li> <li>IISF is an annual event.</li> <li>Organised jointly by: Science &amp; technology-related Ministries and Departments of the Government of India and Vijnana Bharati (Vibha).</li> </ul>

	<ul style="list-style-type: none"> <li>• The first and second IISF were held in New Delhi, the third in Chennai, the fourth in Lucknow, and the fifth IISF was held in Kolkata.</li> <li>• It is a festival to celebrate the achievements of India's scientific and technological advancements with students, innovators, craftsmen, farmers, scientists and technocrats from India and abroad.</li> <li>• IISF-2020 was held at virtual platform.</li> <li>• Theme: 'Science for Aatmanirbhar Bharat and Global Welfare'.</li> </ul>
26. Thoubal Multipurpose Project.	<ul style="list-style-type: none"> <li>• Thoubal Multipurpose Project was recently launched in Imphal by Union Home Minister.</li> </ul>
27. Thermopolium	<ul style="list-style-type: none"> <li>• Researchers have unearthed a thermopolium (Latin word for hot drinks counter) in the Roman empire town of Pompeii.</li> <li>• It was found complete with an image of a Nereid riding a sea-horse, decorative still-life frescoes, food residues, animals bones and victims who died during the volcanic eruption of 79 CE.</li> <li>• The find is significant because it shows the variety of food consumed by the residents of the town — traces of pork, fish, snails and beef have been found in the containers of the stall.</li> <li>• It is also the first time an entire thermopolium has been excavated, complete with pateras, or bronze drinking bowls, ceramic jars used for cooking stews and soups, wine flasks etc.</li> </ul>



**(TEST YOUR KNOWLEDGE)****Model questions: (Answers are provided at the end)**

Q.1 Which of the following countries are dialogue partners of ASEAN Defence Ministers' Meeting – Plus?

1. Australia
2. Japan
3. India
4. USA
5. South Africa

Select the correct code:

- a) 1, 2, 3 and 4 only
- b) 2, 3 and 5 only
- c) 1 and 2 only
- d) 2 and 4 only

Q.2 Pilibhit tiger reserve is situated in which of the following state of India?

- a) Madhya Pradesh
- b) Rajasthan
- c) Uttarakhand
- d) Uttar Pradesh

Q.3 Which of the following is not a tiger range country?

- a) India
- b) Bangladesh
- c) Bhutan
- d) Pakistan

Q.4 The first Honey Farmers Producer Organisation has been registered in which of the following state of India?

- a) Bihar
- b) Madhya Pradesh
- c) Rajasthan

Q.8 Consider the following statements regarding a Pangong Tso lake:

1. It is a landlocked lake.
2. It is fresh water lake.
3. It is a part of the Indus river basin area.

Which of the above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only

d) West Bengal

Q.5 Ordinary fuel cannot be used in machinery that operates in space due to which of the following reasons:

1. Low temperatures encountered in space.
2. Absence of an environment that supports combustion.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.6 Consider the following statements regarding zebrafish:

1. It is a large freshwater fish.
2. It is found in the tropical and subtropical regions.
3. It is widely used in scientific research.

Which of the above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 2 only
- d) 1 and 3 only

Q.7 Sarayu river originates in which of the following state of India?

- a) Uttrakhand
- b) Uttar Pradesh
- c) Maharashtra
- d) Madhya Pradesh

- c) 1 only
- d) 1 and 3 only

Q.9 Implementation of the High Burden to High Impact (HBHI) initiative has been started in which of the following states:

1. West Bengal
2. Jharkhand
3. Chhattisgarh

4. Uttar Pradesh

Select the correct code:

- a) 1,2 and 3 only
- b) 2 and 3 only
- c) 1 and 4 only
- d) 4 only

Q.10 Consider the following focused areas of National Mission on Inter-Disciplinary Cyber-Physical Systems (NM-ICPS):

- 1. Technology Development
- 2. HRD & Skill Development
- 3. Innovation, Entrepreneurship & Start-ups Ecosystem Development
- 4. International Collaborations.

Select the correct code:

- a) 1 and 4 only
- b) 1, 2 and 4 only
- c) 1,2 3 and 4
- d) 2 and 3 only

Q.11 Consider the following statements regarding Indian peacock softshell turtle:

- 1. Its IUCN Red list status is endangered.
- 2. This species is confined to India and Bangladesh only.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.12 Consider the following statements regarding Australian Square Kilometre Array Pathfinder (ASKAP):

Q.15 Recently, IIT- Bombay released Urban Quality of life index. Consider the following statements regarding the report:

- 1. Literacy rate between men and women is highest in Jaipur but lowest in Patna.
- 2. Economic development is highest in Mumbai and lowest in Patna.

Which of the above is/are correct?

- a) 1 only

1. It studies evolution of universe by observing galaxies and the hydrogen gas that they contain.

2. It provides very narrow field of view.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.13 India is home to which of the following giant squirrel species:

- 1. Malayan Giant Squirrel
- 2. Indian Giant Squirrel
- 3. Grizzled Giant Squirrel

Select the correct code:

- a) 1 and 2 only
- b) 1 and 3 only
- c) 1 only
- d) 1, 2 and 3

Q.14 Consider the following statements:

1. Nuclear fusion is a reaction in which two or more atomic nuclei split apart releasing huge amounts of energy in the process.

2. Nuclear fission is a reaction in which two or more atomic nuclei are combined together.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

b) 2 only

c) Both 1 and 2

d) Neither 1 nor 2

Q.16 Consider the following statements regarding houbara bustard:

1. Its IUCN status is endangered.

2. The Asian bustards migrate south to spend the winter in Pakistan, the



Arabian Peninsula and nearby Southwest Asia.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.17 Hayabusa 2 probe which recently brought back samples from asteroid Ryugu was launched by which of the following country?

- Japan
- Russia
- India
- USA

Q.18 The largest planet in solar system is the:

- Mars
- Jupiter
- Saturn
- Venus

Q.19 Where are the stone chariots in India located?

- Karnataka
- Odisha
- Tamil Nadu
- Madhya Pradesh

Select the correct code:

- 1 and 4 only
- 2 and 3 only
- 1 and 2 only
- 1, 2 and 3

Q.20 Consider the following statements:

- Karsog Kulth is a legume grown as a kharif crop in Himachal Pradesh
- Pangi ki Thangi is a type of hazelnut which grows in Pangi valley, Uttarakhand.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.21 The Tharu tribe is native to which of the following states of India?

- Uttarakhand
- Uttar Pradesh
- Bihar
- Jharkhand
- Chhattisgarh

Select the correct code:

- 1, 2, 3 and 5 only
- 1 and 5 only
- 1, 2 and 4 only
- 1, 2 and 3 only

Q.22 Match the following:

Zoo	Location
1. Rajgir Zoo Safari	A. Chennai
2. Shaheed Ashfaque Khan Uddyaan	B. Bhubaneswar
3. Nandankanan Zoological Park	C. Gorakhpur
4. Arignar Anna Zoological Park	D. Nalanda

Select the correct code:

- 1-C;2-D;3-B;4-A
- 1-A;2-B;3-C;4-D
- 1-D;2-C;3-B;4-A
- 1-B;2-A;3-C;4-D

Q.23 Vanchit Ikai Samooh aur Vargon ki Aarthik Sahayta (VISVAS) Yojana is launched under which of the following Ministry?

- Ministry of Social Justice & Empowerment
- Ministry of Agriculture
- Ministry of Finance
- Ministry of MSME

Q.24 Gwalior and Orchha were recently added in the World Heritage City list by UNESCO.

Consider the following statements regarding the same:

1. Orchha was ruled by Bundela dynasty.
2. Gwalior was ruled by Gurjar Pratihar Rajvansh.

Which of the above is/are correct:

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.25 Which of the following Union Territory was recently announced completely organic?

- a) Lakshadweep
- b) Dadra and Nagar Haveli
- c) Delhi
- d) Daman and Diu

Q.26 A new species of Indian Muraingrasses named *Ischaemumjanarthanamii* was recently spotted in which of the hotspots of India?

- a) Western Ghats
- b) Himalayas
- c) Indo-Burma
- d) Sundaland

Q.27 Where is Bhagwan Mahavir National Park located?

- a) Kerala
- b) Goa
- c) Rajasthan
- d) Uttarakhand

Q.28 Which of the following is not a dialogue partner of ADMM-PLUS?

- a) Australia
- b) China
- c) Singapore
- d) New Zealand

Q.29 Which of the following sea/ocean surround Morocco?

- a) Atlantic Ocean
- b) Mediterranean Sea
- c) Caspian Sea
- d) Both (a) and (b)

Q.30 Which of the following Arab countries have recently established normal relations with Israel?

1. Turkey
2. Bahrain
3. Qatar
4. Morocco
5. Sudan
6. UAE

Select the correct code:

- a) 1, 2, 4 and 6 only
- b) 2 and 5 only
- c) 1, 2 and 3 only
- d) 2, 4, 5 and 6 only

Q.31 Lakshadweep comes under the jurisdiction of which of the following High Court?

- a) Kerala
- b) Goa
- c) Tamil Nadu
- d) Maharashtra

Q.32 Where is Vazhachal Reserve Forest situated?

- a) Kerala
- b) Tamil Nadu
- c) Telangana
- d) Karnataka

Q.33 Eluru illness, being seen in news, originated in which of the following state of India?

- a) Tamil Nadu
- b) Jharkhand
- c) Andhra Pradesh
- d) Telangana

Q.34 Plasmodium Ovale is endemic to which of the following region?

- a) South Asia
- b) South-east Asia
- c) Western Africa
- d) Eastern Africa

Q.35 Which of the following international organization has recently announced 2021 as 'International Year of Creative Economy for Sustainable Development'?

- UNESCO
- IMF
- WTO
- OECD

Q.36 Consider the following statements regarding the Lancet Citizens' Commission on Reimagining India's Health System:

- It shall cover only non-communicable diseases.
- Affordability is one of its objectives.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.37 Vision 2035: Public Health Surveillance in India was recently released by which of the following?

- Ministry of Health
- NITI Aayog
- World Health Organisation
- AIIMS

Q.38 Consider the following about Himalayan Serow:

- It is found in Trans-Himalayan region.
- Its IUCN status is Threatened

Which of the above is/correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.39 Where is Rupri Bhaba Wildlife Sanctuary situated?

- Rajasthan
- Himachal Pradesh
- Uttarakhand
- Assam

Q.40 Consider the following statements regarding recently released Human Development Index, 2020:

- Life expectancy of Indians is much lower than Bangladesh and Pakistan.
- India's gross national income per capita increased in 2019 as compared to 2018.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.41 Human Development Index, 2020 is released by which of the following?

- UNESCO
- UNDP
- WHO
- UNFCC

Q.42 Which of the following country releases currency manipulator watch list?

- USA
- China
- Russia
- UK

Q.43 Prime Minister's Special Scholarship Scheme (PMSSS) is launched for which of the following Union Territories?

- Jammu and Kashmir
- Puducherry
- Ladakh
- Daman and diu
- Dadra and Nagar Haveli

Select the correct code:

- 1, 2 and 5 only
- 1 and 3 only
- 1, 3 and 4 only
- 3 and 4 only

Q.44 International Development Association (IDA) is financial lending institution of which of the following?

- World bank

- b) IMF
- c) BRICS
- d) WEF

Q.45 Where is International Financial Services Centre (GIFT city) situated?

- a) Delhi
- b) Gandhinagar
- c) Gurugram
- d) Lucknow

Q.46 The New Development Bank is headquartered at which of the following?

- a) Shanghai
- b) Johannesburg
- c) New Delhi
- d) Moscow

Q.47 Consider the following statements regarding National Security Directive recently approved by Cabinet Committee on Security:

1. It shall classify telecom products and their sources under the 'trusted' and 'non-trusted' categories.
2. It will be headed by the deputy National Security Advisor (NSA).

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.48 Which of the following Intangible Cultural Heritage of India which are recognized by UNESCO:

1. Kutiyattam
2. Yoga
3. Nowruz
4. Kumbh Mela
5. Kathak dance

Select the correct code:

- a) 1 and 5 only
- b) 2, 4 and 5 only
- c) 1, 2, 3 and 4 only
- d) 2 and 4 only

Q.49 Consider the following statements regarding India's recently launched satellite CMS-01:

1. It will have frequency spectrum that will cover Andaman and Nicobar and Lakshadweep Islands only.
2. It is launched in geosynchronous orbit.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.50 Sentinelese are native tribe of which of the following?

- a) Andaman and Nicobar Islands
- b) Lakshadweep
- c) Western Ghats
- d) Chhattisgarh

Q.51 Which of the following state of India does not border Bangladesh?

- a) Bihar
- b) Assam
- c) Tripura
- d) West Bengal

Q.52 Recently, the Union Defence minister recently handed over three indigenously developed Defence Research and Development Organisation (DRDO) systems to Army, Navy and Air Force. Consider the following regarding the same:

1. BOSS is An all-weather electronic surveillance system.
2. The IMSAS is high performance intelligent software system providing Global Maritime Situational Picture

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.53 Human Freedom Index 2020 was recently released. Consider the following statements:

1. India's rank has significantly improved from last year.

2. The world has seen a notable decline in personal freedom since 2008.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.54 Gurudwara Rakab Ganj Sahib is the site of cremation for which of the following Sikh Guru?

- Guru Amar Das
- Guru Angad Dev
- Guru Tegh Bahadur
- Guru Gobind Singh

Q.55 Consider the following statements regarding Winter Solstice:

- It occurs when one of the Earth's poles has its minimum tilt away from the Sun.
- It is the shortest day of the year in both the Hemispheres.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.56 Shola Sky Islands are a part of which of the following?

- Western Ghats
- Eastern Ghats
- Himalayas
- Andaman and Nicobar Islands

Q.57 'Matru Sahyogini Samiti' shall be appointed in which of the following state of India?

- Madhya Pradesh
- Uttar Pradesh
- Rajasthan
- Gujarat

Q.58 Consider the following statements regarding Gatka:

- Gatka originates from the state of Rajasthan.

2. It is used both as Self defence and a sport.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.59 Thang Ta is a martial art of which of the following state of India?

- Manipur
- Mizoram
- Tripura
- Assam

Q.60 Gastrodia agnicellus is a newly discovered orchid named "the ugliest orchid in the world."

Which of the following is incorrect about it?

- It was found in a forest in Madagascar
- It feeds on insects.
- It has no leaves.
- It is regarded as a threatened species

Q.61 Consider the following statements:

- Navy's Information Fusion Centre for the Indian Ocean Region (IFC-IOR) is meant to promote Maritime Domain Awareness.
- Mauritius, Seychelles and Sri Lanka have been integrated into India's coastal radar chain network.

Which of the above is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.62 Consider the following statements regarding WHO's 2019 Global Health Estimates which was released recently:

- Heart disease remains the leading cause of death.
- Cases of HIV/AIDS have increased ten times as compared to 2000.

Which of the above is/are correct?

- 1 only

- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.63 Abdul Rahim Khan-I-Khana was a well-known poet who lived in the court of which of the following Mughal Emperor?

- a) Akbar
- b) Shah Jahan
- c) Humayun
- d) Jahangir

Q.64 International Bank for Reconstruction and Development (IBRD) is the lending arm of which of the following?

- a) International Monetary Fund
- b) World Bank
- c) World Economic Forum
- d) Organisation for Economic Co-operation and Development

Q.65 Ayushman Bharat PM-JAY SEHAT will be launched to extend health coverage to all residents of which of the following State/UT?

- a) Gujarat
- b) Ladakh
- c) Jammu & Kashmir
- d) Sikkim

Q.66 Consider the following statements regarding Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY):

1. It provides free primary health care for 40% of people in India.
2. The program is centrally sponsored.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.67 Tso Kar Wetland Complex recently became India's 42nd Ramsar site. Where is it located?

- a) Sikkim
- b) Arunachal Pradesh
- c) Kashmir
- d) Ladakh

Q.68 Zomi are an indigenous community living in which of the following state of India?

- a) Assam
- b) Mizoram
- c) Tripura
- d) Manipur

Q.69 Assam borders which of the following states?

1. West Bengal
2. Arunachal Pradesh
3. Nagaland
4. Meghalaya

Select the correct code:

- a) 1 and 3 only
- b) 1, 2 and 3 only
- c) 3 and 4 only
- d) 1, 2, 3 and 4

Q.70 E-Sampada, a new Web Portal and Mobile App was recently launched by which of the following Ministry?

- a) Ministry of Jal Shakti
- b) Ministry of Agriculture
- c) Ministry of Defence
- d) Ministry of Housing and Urban Affairs

Q.71 Consider the following statements regarding Namghar:

1. These are traditional Vaishnavite monasteries.
2. These are particularly native to Assam.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.72 BBX11 gene was in news recently for which of the following?

- a) It facilitates in the greening of plants.
- b) It will help in treatment of autoimmune diseases through gene therapy.
- c) It is a herbicide resistant gene identified in Maize plant
- d) The new mutation of Covid-19 was identified in this gene.

Q.73 Recently scientists have found first possible radio signal from a planet beyond our solar system. Consider the following statements regarding the same.

1. It was discovered for the first time from the Tau-Bootes star system.
2. Tau-Bootes is a binary star system which is 51 light years away from our planet.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2

Q.75 Portulaca Laljii, a new species of wild sun rose was recently found in which of the following region?

- a) Eastern Ghats
- b) Western Ghats
- c) Himalayas
- d) Andaman and Nicobar Islands

Q.76 Pneumosil which was recently in news is a conjugate vaccine for which of the following?

- a) Liver cancer
- b) Coronavirus
- c) Pneumonia
- d) Malaria

Q.77 National Medicinal Plants Board works under which of the following ministry?

- a) Ministry of Health
- b) Ministry of Chemicals and Fertilizers
- c) Ministry of AYUSH
- d) Ministry of Environment, Forest and Climate Change

Q.78 Consider the following statements regarding National Common Mobility Card:

1. It will turn smartphones into an interoperable transport card that commuters can use to pay for Metro, Bus and Suburban Railway services.
2. The card service was first started in Mumbai in 2019.

d) Neither 1 nor 2

Q.74 Consider the following statements regarding the Khadi and Village Industries Commission:

1. It is an autonomous body.
2. It functions under the ministry of Micro, Small and Medium Enterprises.

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Which of the above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.79 Consider the following statements regarding Digital Ocean web-based application launched recently:

1. It will help to share knowledge about the ocean with a wide range of users.
2. It provides free access to information to the general public and the common man

Which of the above is or are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q. 80 Which of the following is the closest star system to the Sun?

- a) Proxima Centauri
- b) Alpha Centauri A & B
- c) Barnard's Star
- d) Sirius A & B

Q.81 Which of the following states of India border Bhutan?

1. Sikkim

2. West Bengal
3. Assam
4. Bihar
5. Arunachal Pradesh

Select the correct code:

- a) 1, 2, and 4 only
- b) 1, and 5 only
- c) 2, 3 and 5 only
- d) 1, 2, 3 and 5 only

Q.82 Which of the following statements regarding PRAGATI is incorrect?

- a) It is a three-tier system
- b) The PRAGATI platform makes use of video-conferencing and geo-spatial technology only.
- c) The platform is aimed at addressing common man's grievances.
- d) Important programmes and projects of the Central and State Governments are reviewed through PRAGATI

Q.83 Which of the following sea borders Turkey in the north?

- a) Red Sea
- b) Black sea
- c) Aegean Sea
- d) Marmara Sea

Q. 84 Consider the following statements regarding Ruthenium-106:

1. It is a radioactive form of the rare heavy metal ruthenium.
2. It's used in medicine for cancer radiation therapy, especially for eye and skin tumours.

Which of the above is or are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2



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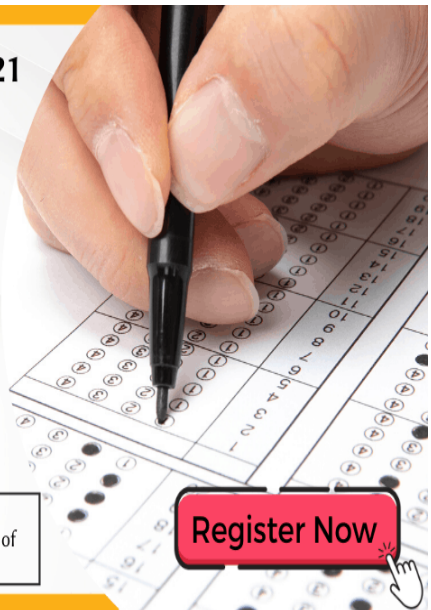
1 A	22 C	43 B	64 B
2 D	23 A	44 A	65 C
3 D	24 C	45 B	66 B
4 B	25 A	46 A	67 D
5 C	26 A	47 C	68 D
6 B	27 B	48 C	69 D
7 A	28 C	49 B	70 D
8 C	29 D	50 A	71 C
9 A	30 D	51 A	72 A
10 C	31 A	52 C	73 C
11 D	32 A	53 B	74 B
12 A	33 C	54 C	75 A
13 D	34 C	55 D	76 C
14 D	35 A	56 A	77 C
15 B	36 B	57 A	78 A
16 B	37 B	58 B	79 C
17 A	38 D	59 A	80 A
18 B	39 B	60 B	81 D
19 D	40 D	61 C	82 B
20 A	41 B	62 A	83 B
21 D	42 A	63 A	84 C



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